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CONSERVATION DISTRICT

LONG RANGE PLAN

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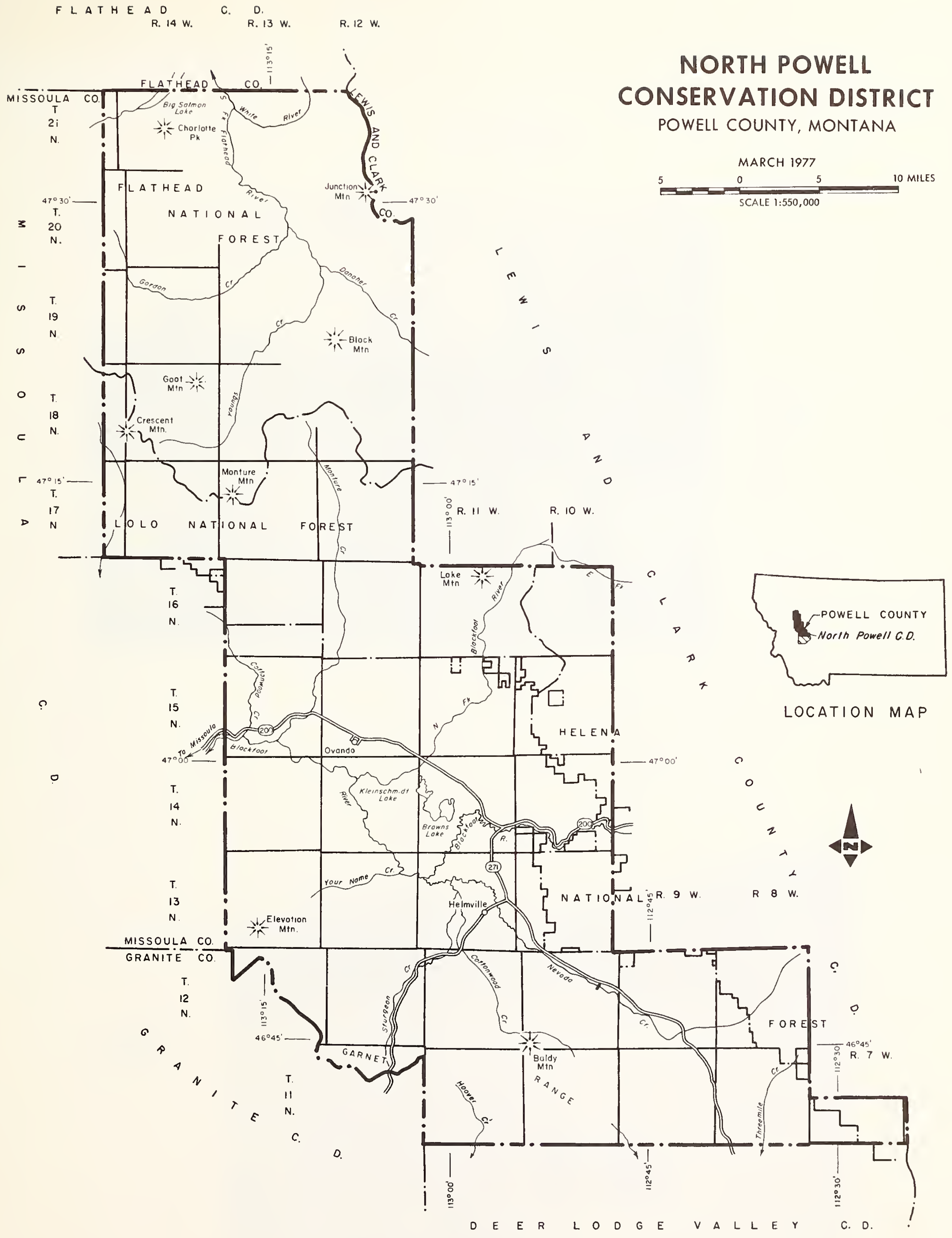
NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977



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THE
CONSERVATION
DISTRICT

WORKING
WITH

THE
RESOURCE

FOREWORD

The North Powell Conservation District Program is designed to serve as a guide to assist the district supervisors, local residents, landowners, local governments, policy makers, and others with the overall development, use, and management of the district's natural resources. It is not the intent of the district to deny the rights of anyone or to prohibit any land use, development, or activity. However, it is the intent of the district to insure that any modification of a natural resource base, change in land use, development, or activity be carried out in a planned, orderly fashion to give the least adverse effect to the environment, social and economic patterns of the district.

Section I deals with the overall operations of the district program including organization, history, and responsibilities of the supervisors.

Section II outlines the policy of the district as adopted by the board of supervisors. These policy statements serve as guides for the direction of district resource development.

Section III includes inventories of the district's resources and presents analyses of current resource situations.

Section IV outlines the objectives, goals, and priorities of the district.

Section V identifies current major problems and opportunities.

Section VI discusses alternatives for use in implementing the program to attain the goals.

Section VII contains the resolution of adoption and current supervisor assignments for leadership in phases of implementing the program.

Resource data have been gathered and updated, and public and agency inputs have been gathered through discussion, meetings, and written material over the past three years for development of this program.

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SECTION I

THE DISTRICT PROGRAM

THE DISTRICT PROGRAM

A. General

The North Powell Conservation District Program is a local plan of assistance to conservation district land occupiers for soil and water conservation and related natural resource uses. The Conservation District plan serves in part and contributes to:

1. Resource conservation and development planning;
2. Comprehensive land use planning;
3. Environment enhancement planning; and
4. Pollution abatement planning; primarily sediment and irrigation return flows.

The plan involves:

1. Establishing policy;
2. Inventories, interpretations and analyses of the natural resources;
3. Setting goals, objectives and priorities;
4. Recognizing problems and opportunities for wise use and development of the District's natural resources;
5. Coordinating the implementation efforts of cooperating land occupiers, resource groups and agencies;
6. Securing financing, technical and other assistance;
7. Continuing evaluation and updating to reflect changing situations;
8. Obtaining public involvement; and
9. Resolution of adoption.

B. Purposes

1. Soil Conservation

The primary purpose of the district is preventing soil erosion. In doing this, the district necessarily becomes involved in water conservation, pollution abatement, rangeland management, forestry and all related land uses.

Assistance has come primarily from agricultural agencies. It is anticipated that other agencies and programs, such as the Department of Natural Resources and Conservation, the Environmental Protection Agency and the Federal Revenue Sharing Program, may provide some financial assistance in the future.

Increased pressures and demands for land as a place to live, work and play are expanding the district's role. The district has traditionally been oriented toward agriculture and forestry, for this is the use to which most land and water has been put. Many cooperators of the district work only part-time in agriculture with supplemental income derived from forest-related work or other non-farm jobs.

Coupled with this public pressure for a wider diversity of uses is an increasing demand for a quality environment. Consequently, additional purposes of this program are to plan measures for pollution control and abatement to include ecological consideration in determining the highest and best use of land within its capabilities, and to choose intelligently among the many competitive uses. The latter purpose involves consideration of the multiple use concept as opposed to single use, plus an evaluation of trends toward public ownership and the various methods of regulation that might be used to effect proper land use. Soil conservation also gives emphasis to enhancement of water quality, natural beauty, and wildlife; preservation of scenic qualities, historic sites, and unique natural areas; and improvement of environmental health, job opportunities and education of the public.

2. Administrative Guide

This plan will serve as an administrative guide for supervisors and is an outline of the means whereby the board of supervisors will coordinate efforts for the orderly management of the natural resources on all lands in the district.

3. Reference

This plan will serve as a reference for technicians, county commissioners, land use planners, community planners, researchers, educators and others working with the districts, particularly those agencies that require a district program to follow as provided in Memoranda of Understanding or other appropriate agreements.

4. Annual Work Plan

This plan will serve as a basis for developing the Annual Plan of District Operations.

5. Information

This plan will serve as the basis for an information program. Information will be directed to the public, particularly electors, cooperators, land owners-managers-occupiers-developers, legislators, county commissioners, conservation agencies and organizations, schools, churches, libraries and planning and development agencies.

6. Problems and Opportunities

The district program identifies the conservation problems and opportunities recognized by supervisors, cooperating agencies and advisory groups and outlines measures to correct the problems and/or develop wise management of natural resources. This program attempts to give a history of the district, to explain and evaluate the present condition of the natural resources (soil, water, vegetation and wildlife), the opportunities that exist to protect and develop these resources, and the policies, objectives, and working procedures of the supervisors. This program gives consideration to all private and public lands.

C. Jurisdiction

1. Private Lands

Basically the district program has responsibility in the private ownership land area and deals with water, soil and related resources. It has, as overall objectives, the treatment of each acre according to its needs and the use of each acre within its capabilities.

2. Public Lands

Mutual problems and opportunities for the conservation, development and use of public lands are intended to be correlated with the public land administrators, managers and users.

D. Method

Land occupiers voluntarily sign cooperative agreements and agree to develop and carry out a conservation plan with such help and assistance as may be provided by the district and other agencies working through the district. There are also mandatory provisions in the Conservation District law for land use regulations and sediment control.

E. Authorization

The district program is authorized under provisions of the Montana Conservation Districts Law, Sections 76-101 to 76-233, R.C.M. 1947 as amended, and particularly Section 76-108 (8). Programs are required in Memoranda of Understanding or other appropriate agreements. The district has agreements with the following:

U. S. Soil Conservation Service, dated November 1969
U. S. Department of Agriculture, dated September 1963
U. S. Forest Service, dated December 1949

Division of State Forestry dated September 1966
U. S. Army Corps of Engineers
Agricultural Stabilization & Conservation Service

Informal working relations have been established or are desired for cooperation and assistance from the following:

Federal: U. S. Environmental Protection Agency
U. S. Department of Interior - Bureau of Land Management

State: Montana Extension Service
Montana Fish and Game Commission
Montana Department of State Lands
Montana Department of Natural Resources and Conservation
Montana Highway Commission
Montana Environmental Quality Council
Montana Department of Intergovernmental Relations
Montana Department of Health and Environmental Sciences

Local: County Commissioners
County Planning Board
School Districts
Community Advisory Planning Boards

Non-Governmental:
Associations of resource interests such as development groups, churches, youth groups, civic groups, sportsmen's groups, etc.

Other major laws which relate to the district program are:

1. P.L. 46, Soil Conservation and Domestic Allotment Act of 1936. (USDA Secretary's Memorandum No. 1488 of February 1, 1962);

2. P.L. 566, Watershed Protection and Flood Prevention Act of 1954;

3. P.L. 87-703, Section 102 of the Food and Agriculture Act of 1962, Resource Conservation and Development Program;

4. P.L. 91-190, National Environmental Policy, January 1, 1970;

5. P.L. 92-500, Federal Water Pollution Control Act of 1972;

6. P.L. 92-419, Rural Development Act of 1972;

7. P.L. 93-86, Title X, Agriculture and Consumer Protection Act of 1973;

8. Water Quality Rules and Regulations of Department of Health and Environmental Sciences;

9. Floodplain Rules and Regulations of Montana Department of Natural Resources and Conservation;

10. State Subdivision and Planning Act of the Montana Department of Intergovernmental Relations and County Commissioners;

11. Montana Water Use Act of 1973;

12. Montana Major Facility Siting Act (House Bill 581);

13. Revenue Sharing by Conservation Districts (Senate Bill 141);

14. Montana Economic Land Development Act (Senate Bill 672);

15. Renewable Resource Development Program (Senate Bill 642);

16. Natural Streambed and Land Preservation Act (Senate Bill 310);

17. Lake Shore Protection (Senate Bill 175);

18. Saline Seep Program on State Lands (House Bill 33);

19. Montana Weed Control Law;

20. Department to Inspect Dams, Dikes and Reservoirs (Senate Bill 337);

21. Defining Agricultural Land (House Bill 488); and

22. Open Space Land and Voluntary Conservation Easement Act (House Bill 341).

F. Organization, Location and Acreage

The district was first organized in 1949 as a result of petitions to the State Soil Conservation Committee and a hearing and referendum. The district covers all lands in Powell County north of Township 10. The district covers 940,696 acres which extends 65 miles at its greatest length north to south and varies from 15 to 36 miles in width from east to west. There are no incorporated cities or towns within the district. Two rural communities, Helmville and Ovando are included within the district.

The district was originally named North Powell Soil Conservation District. It became North Powell Soil and Water Conservation District in 1962 and was changed to North Powell Conservation District in 1971. These changes reflect changes in the law and assumption by the district of broader resource conservation and development responsibilities. The original supervisors were: Edward Bandy, James Manley, Leo Wales, Neil Spieker and Bert Mannix. The supervisor with the longest term to date is Bert Mannix of Helmville who retired in 1971 after 19 years of service in two separate periods of service.

G. Responsibilities

Supervisor Responsibilities and Authorities:

The supervisors are elected by the qualified electors within the district. They are the governing body of the Conservation District with broad authorities as outlined in the Conservation Districts Law to develop and carry out a resource conservation and development program with the use of all available resources and authorities that they choose to use and can obtain. It is the policy of the district to cooperate with and use the services of other agencies for technical, educational, planning, research, and financial assistance to private land occupiers to plan and apply conservation practices. The Montana Department of Natural Resources and Conservation and District Supervisors can request state and county funds for the operation of the district.

SECTION II

POLICY

SECTION II

POLICY

It is the North Powell Conservation District's policy to work cooperatively with other groups, individuals and local, state and federal government to better achieve mutual objectives related to sound soil and water conservation planning. The district will cooperate with other local planning bodies by exchanging information and other resources and by assisting with necessary coordination. In addition, the long-range plan is designed to carry out the district program with respect to the conservation of soil and water resources, control and prevention of soil erosion and prevention of flood water and sediment damages. It shall further be the district's aim to prevent impairment of dams and reservoirs, protect the tax base, assist in furthering the natural resource policies and programs of the state and help carry out land use policies and regulations as provided in the Montana Conservation Districts Law and other Montana statutes.

Specifically, the North Powell Conservation District adopts the following policy for their resource planning program:

1. The rights to economic opportunity and freedom of choice in the use of land will remain with the landowner as long as they do not destroy the resource or conflict with safe, clean and healthy environment for society.

2. Accelerated education and information programs are needed to convey a basic understanding of the need for proper land use to all segments of society. Land use policies and plans will be developed with broad public involvement to ensure citizen support and understanding.

3. Land use policies will consider the impact and influence of the property tax structure. Tax structures will encourage agriculture, forestry, wildlife, recreation and similar uses of land in the public interest.

4. Land use policies will be oriented toward protection of the environmental and aesthetic values, which are an integral part of our history and way of life.

5. Consideration will be given to the needs and desires of the people for productive soils and a quality environment to ensure attractive, convenient and satisfying places to live, work and play.

6. The capability and limitation of soils will be considered in making land use decisions, land use changes or when increasing the intensity of a land use.

7. To develop and improve the rangeland and forestry resources for maximum production, protection of the soil resource and to prevent or reduce sediment pollution of water.

8. To provide broad direction and coordination in maintaining water quality while attaining maximum beneficial use of the surface and ground water resources.

9. Discourage nonagricultural or nonrecreational development in flood plains, unsightly urban sprawl and poorly planned subdivisions.

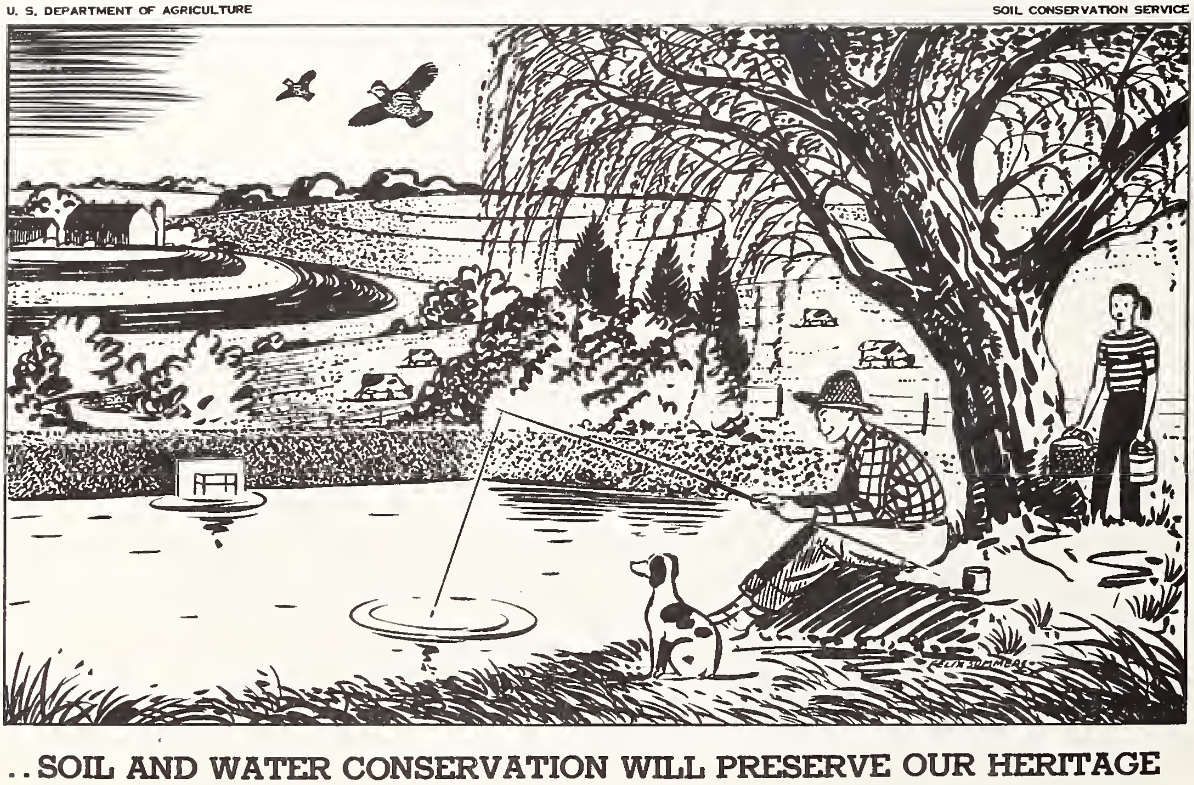
10. Should mining or industrial development occur, construction and similar activities which alter or destroy the surface of the land will be treated or reclaimed.

11. Priorities will be established in deciding how planning assistance furnished through the district is divided between individuals, groups and units of government.

    a. The total resource will be analyzed and its use guided through proper conservation planning.

    b. Conservation practices will be planned and plans will be implemented in accordance with the overall system planning concept.

12. Land use policies and plans need periodic review to determine changes in land resource use which are consistent with environmental and social needs.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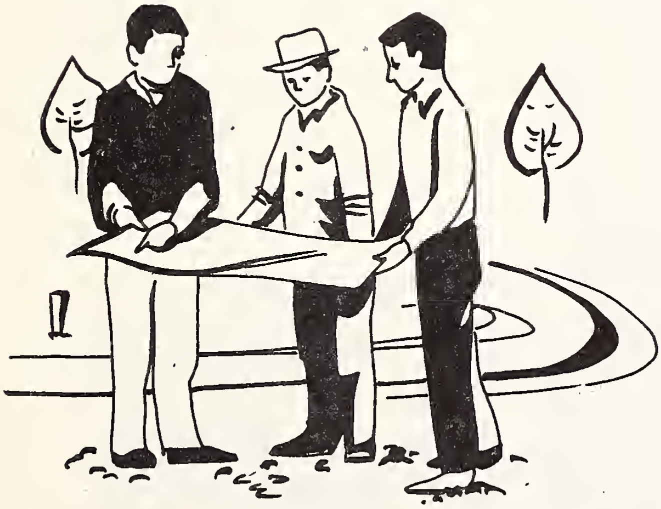
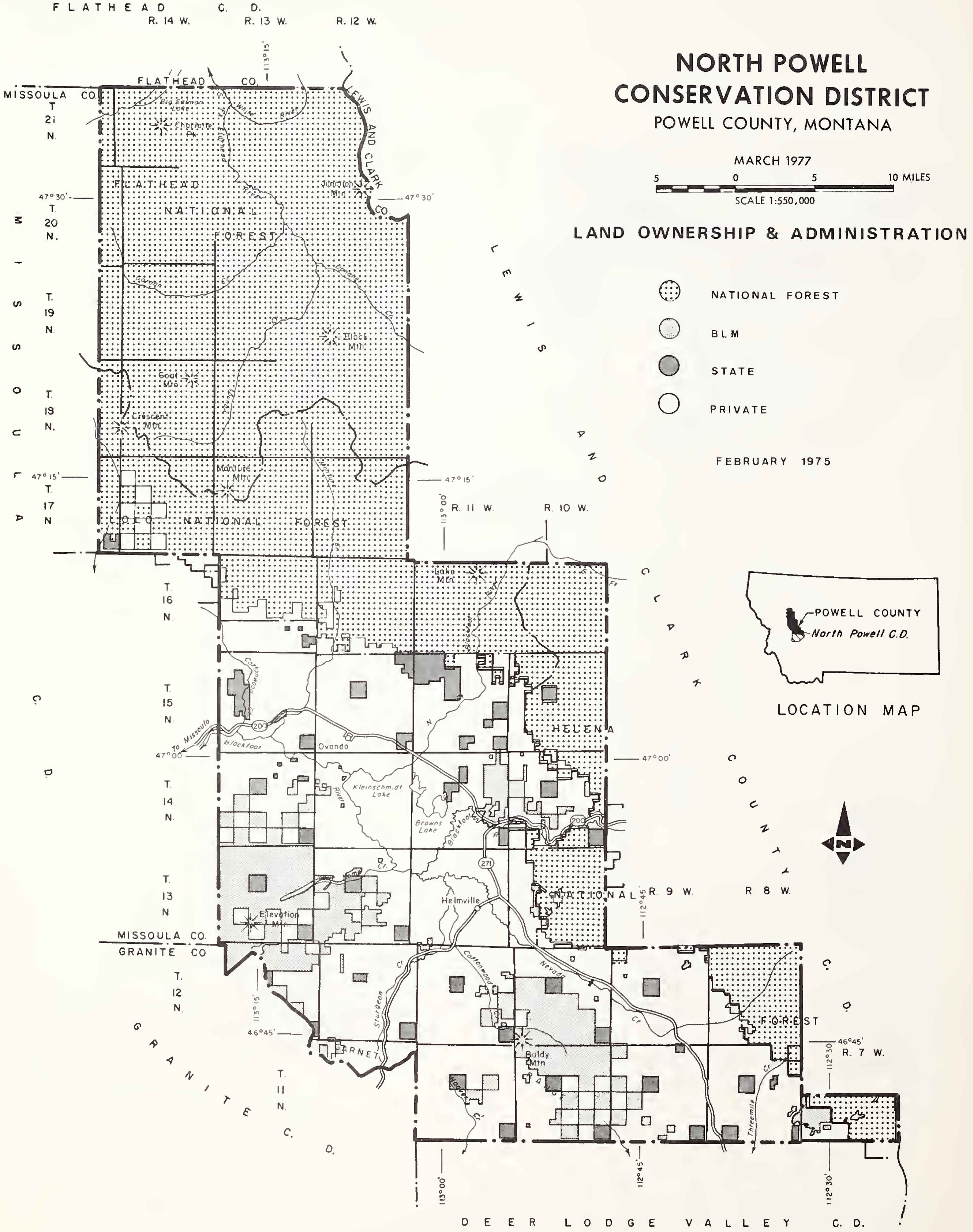
SECTION III

RESOURCE INVENTORIES

RESOURCE INVENTORIES



<

NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

SCALE 1:550,000

LAND OWNERSHIP & ADMINISTRATION

⁙ NATIONAL FOREST

░ BLM

● STATE

○ PRIVATE

FEBRUARY 1975

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LAND OWNERSHIP

There are 940,696 acres of land area within the boundaries of the district. About 62 percent or 584,567 acres of the district are public lands of which 52 percent or 485,492 acres are administered by the U. S. Forest Service, and 7 percent or 70,171 acres are administered by the Bureau of Land Management. Three percent or 28,904 acres are administered by State agencies, of which 7,986 acres are under the Department of State Lands, 14,941 acres are under the Division of Forestry, and 5,977 acres are under the Department of Fish and Game.

About 38 percent or 356,128 acres of the district's total area are under private ownership and control. About 8 percent or 73,825 acres are under large corporate ownership with 62,995 acres owned by U. S. Plywood and 10,830 acres owned by the Burlington Northern Railway Company.

Thirty percent or 282,303 acres of the district in privately owned farm and ranch lands is the basis of the main economic enterprise of the district--the beef cattle industry. Some Forest Service lands and most BLM, Division of Forestry, Department of State Lands, U. S. Plywood and Burlington Northern lands are available for grazing to support the beef cattle industry.

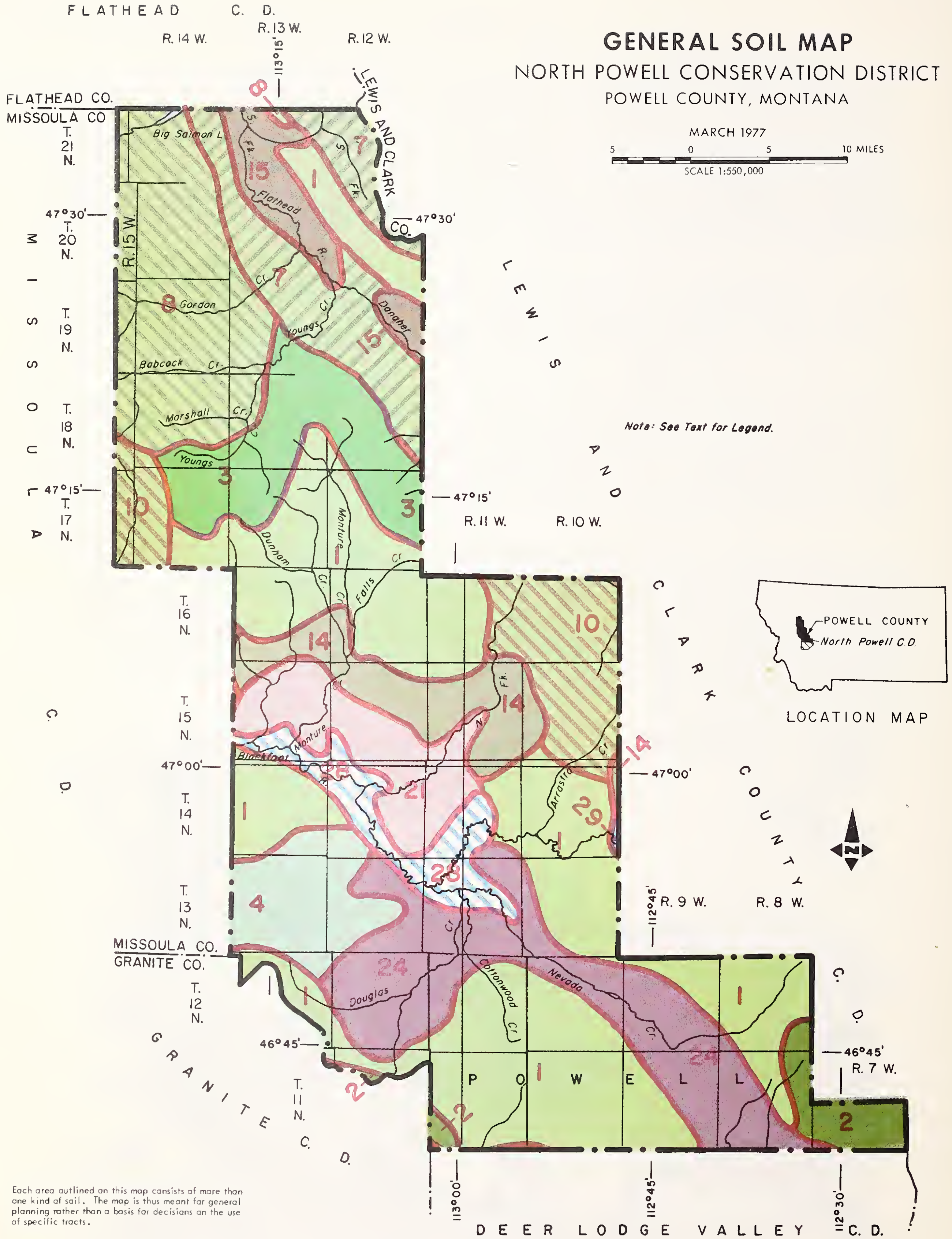
In recent years there have been many changes in private land ownerships. A major problem is developing in land ownership patterns. This is the division of economic operating units into smaller uneconomic units and the development of small tracts as rural living units, summer homes, recreation homes, etc. In the past few years about 9,700 acres of privately owned ranch lands have gone into this type of rural living site "subdivisions."

GENERAL SOIL MAP

NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977



Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

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GENERAL SOILS

SOILS OF THE MOUNTAINS

1. HAPLOBOROLLS-CRYOBOROLLS--Moderately sloping to steep, shallow to deep, well-drained soils on rolling hills, benches, and terraces.

2. CRYOBOROLLS-CALCIBOROLLS-CALCIORTHIDS--Sloping to steep, shallow to deep, well-drained; calcareous soils on rolling hills, benches, and terraces.

3. USTOCHREPTS-USTORTHENTS--Nearly level to steep, deep, well-drained soils on glaciofluvial fans and terraces.

4. CRYOCHREPTS-CRYOBORALFS-USTOCHREPTS--Gently sloping to steep, deep, well-drained soils on glacial till plains, hills and terraces.

7. ARGIBOROLLS-NATRIBOROLLS--Nearly level to sloping, deep, well-drained soils on lacustrine fans and benches in uplands.

8. CRYOBOROLLS-CRYORTHENTS--Moderately sloping to steep, shallow and moderately deep, well-drained soils on mountain foothills.

10. HAPLOBOROLLS-NATRIBOROLLS-CAMBORTHIDS--Nearly level to sloping, deep, well-drained soils on glaciofluvial and lacustrine fans and terraces.

SOILS OF THE HIGH TERRACES AND MOUNTAIN FOOTHILLS

14. USTOCHREPTS-CRYOCHREPTS--Steep and very steep, shallow to deep, well-drained soils over calcareous bedrock on the mountains.

15. CRYOCHREPTS-CRYANDEPTS--Moderately steep to very steep, shallow to deep, well-drained soils over argillite or granite on the mountains.

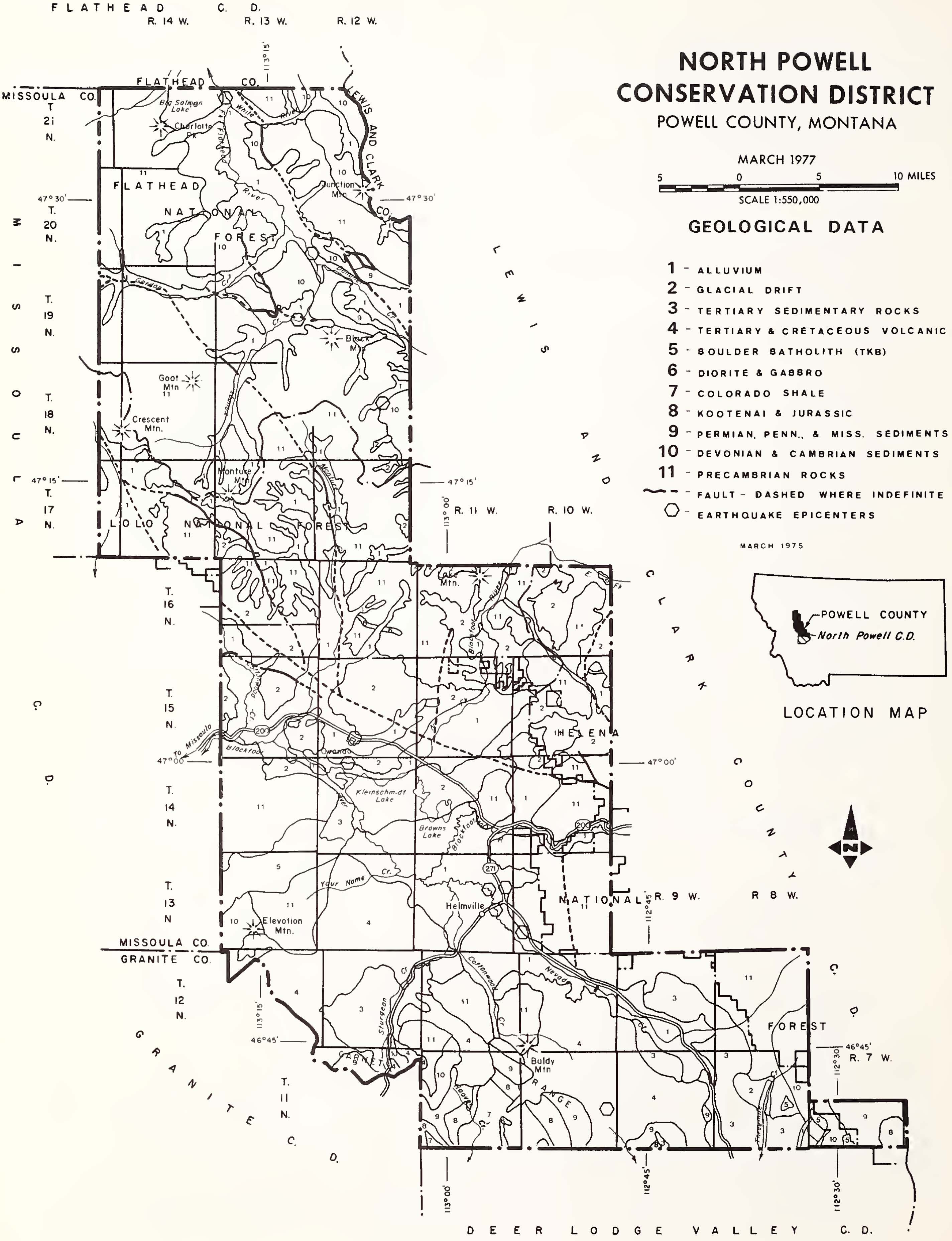
21. CRYOCHREPTS, HIGH ELEVATION--Steep and very steep, shallow to deep, well-drained soils over cretaceous shales, sandstone, and conglomerate, extensive areas of rock outcrops are on tops and sides of mountains.

24. CRYOBOROLLS-ARGIBOROLLS--Nearly level to strongly sloping, deep, well-drained soils on alluvial benches and terraces in uplands.

SOILS OF THE FLOOD PLAINS, TERRACES, AND ALLUVIAL FANS

28. USTIFLUVENTS-HAPLUDOLLS--Nearly level to gently sloping, shallow to deep, well to poorly drained soils on flood plains, fans and low terraces.

29. USTIPSAMMENTS-EUTROCHREPTS--Nearly level to sloping, deep, well to poorly drained soils on flood plains, fans and terraces.



NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

SCALE 1:550,000

GEOLOGICAL DATA

1 - ALLUVIUM
2 - GLACIAL DRIFT
3 - TERTIARY SEDIMENTARY ROCKS
4 - TERTIARY & CRETACEOUS VOLCANIC
5 - BOULDER BATHOLITH (TKB)
6 - DIORITE & GABBRO
7 - COLORADO SHALE
8 - KOOTENAI & JURASSIC
9 - PERMIAN, PENN., & MISS. SEDIMENTS
10 - DEVONIAN & CAMBRIAN SEDIMENTS
11 - PRECAMBRIAN ROCKS
〰 - - FAULT - DASHED WHERE INDEFINITE
⬡ - EARTHQUAKE EPICENTERS

MARCH 1975

LOCATION MAP

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GEOLOGICAL DATA

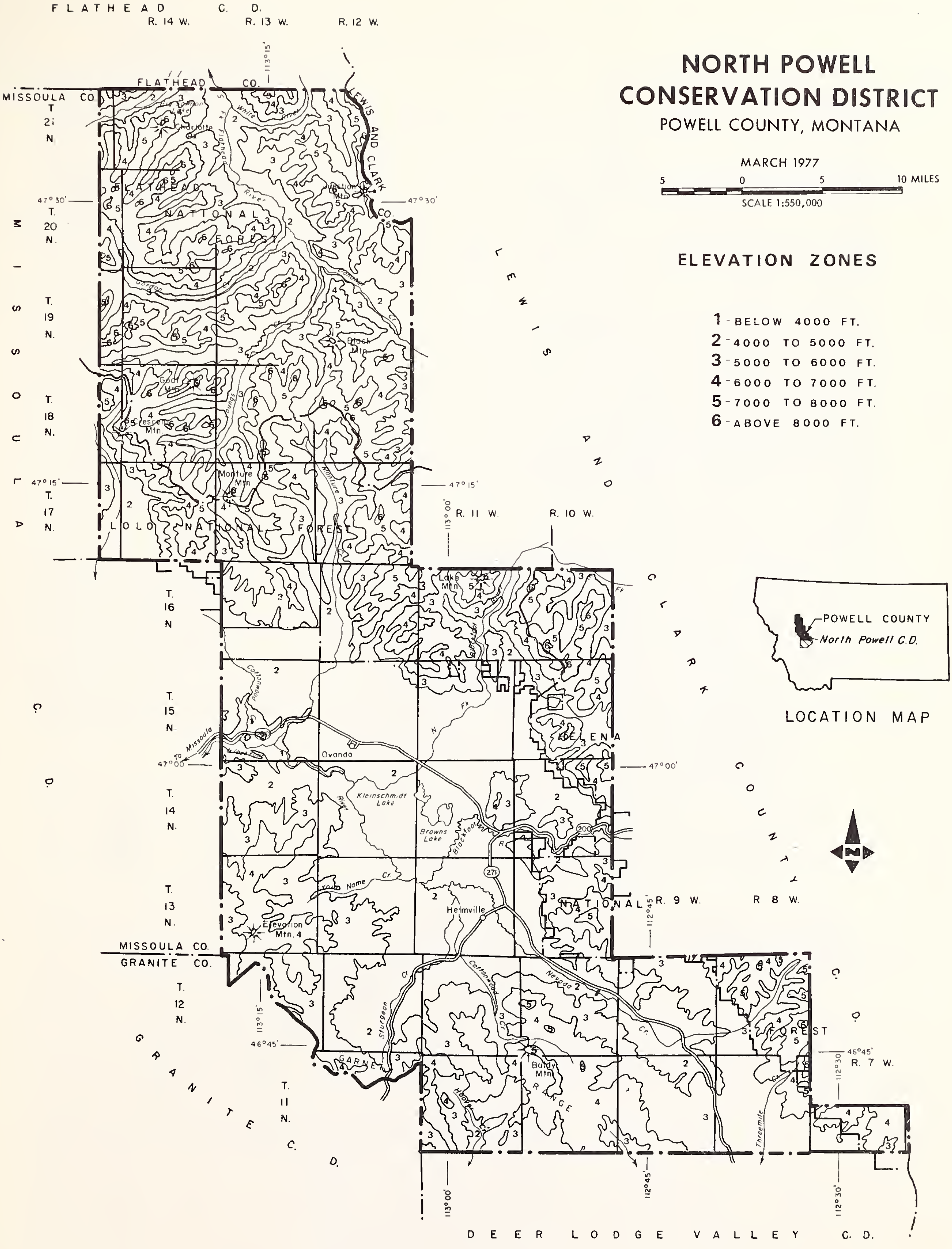
AGE	SYMBOL	FORMATION - DESCRIPTION	HYDROLOGIC CHARACTERISTIC
Quaternary Recent	1	Alluvium -- unconsolidated stream deposited gravel, sand and silt. Greatest thickness in immediate flood plain of major rivers. Maximum thickness of 50 to 75 feet.	Yields adequate supplies of groundwater for domestic and livestock use. Locally may yield adequate supplies for irrigation. 10 to 1000 gpm.
Pleistocene	2	Glacial drift -- moraine and outwash plain deposits of mountain glaciers; mainly ill-sorted and poorly rounded boulders, cobbles, pebbles and sand.	Locally yields adequate water for domestic and livestock use. Average yield 3 to 15 gpm.
Tertiary	3	Tertiary Sedimentary rocks -- poorly consolidated gravel, sand, silt and clay. Many lakebed "siltstones" with lesser amounts of alluvial sands and gravels. Maximum depths of 600 feet reported.	Local materials are predominately clays with small yields available. 2 to 10 gpm. Possible zones of clean sand and gravel may exist locally with yields of 10 to greater than 1000 gpm.
	4	Tertiary and Cretaceous volcanic rocks. Flows and associated pyroclastic deposits.	Small yields in upper zones through fractures. Fractures extensive in upper 100 feet. Yields average 2 to 10 gpm.
Cretaceous	5	Boulder batholith and related stocks -- granitic intrusive rocks.	Relatively impervious. Little or no available water in these materials.
	6	Diorite and Gabbro -- fine-grained intrusive dikes, silts and irregular bodies.	Contains small volumes of water in fractured and jointed zones. Not a dependable acquifer.
	7	Colorado Shale -- dark gray marine shales and siltstones with many concretions and sandy units.	Small volume of highly mineralized water often unsuitable for any use.

AGE	SYMBOL	FORMATION - DESCRIPTION	HYDROLOGIC CHARACTERISTIC
Jurassic	8	Kootenai Formation and Jurassic sediments -- conglomerates, sandstone, shale and mudstone.	Contains thick permeable sandstone acquifers. Generally good source of high yield wells -- 100 to 1000 gpm.
Paleozoic	9	Permian, Pennsylvanian, and Mississipian sediments; undifferentiated limestone and shale.	High yields in limestone cavernous zones and sandstone and quartzite fractured zones. Large yield variation -- 0 to 1000 gpm.
	10	Devonian and Cambrian sediments, undifferentiated -- shale, limestone, quartzite and sandstone.	Rocks massive and relatively impervious. Small yields of 2 to 5 gpm available for domestic and stockwater use.
Precambrian	11	Precambrian Rocks, undifferentiated. Predominantly Belt Series sediments with some pre-Belt metamorphic rocks, Argillites, limestones, quartzite and shale.	Upper zones fractured. Small yields may be developed in fractured zones -- 0 to 8 gpm.

ELEVATION ZONES

The lowest elevation in the district is about 3850 feet above mean sea level where the Blackfoot River leaves the district on the Powell-Missoula county line. The highest elevation is 8845 at Goat Mountain about 23 miles almost straight north from the lowest elevation.

There is only a very small part of the district's area lower than 4000 feet above mean sea level. This is a small area along the Blackfoot River bottoms near the Powell-Missoula County line.
There are three areas in the 4000 to 5000-foot elevation zone. One is in the northern part of the district in the Bob Marshall Wilderness along the South Fork of the Flathead. The second area is in the southwest corner of the northern part of the district in the Seeley-Morrell-Trail Creek drainages. The major area in this elevation zone encompasses the central Ovando-Helmville valley area. This lower elevation central area covers about 25% of the district. It includes the lower valley areas of the Nevada-Douglas-Monture Creeks-North Fork Blackfoot Rivers system. Almost all of the agricultural hayland, cropland and pasture is in this 3850 to 5000-foot elevation zone. About 70% of the district's area is above 5000 feet in elevation.



NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

5 0 5 10 MILES

SCALE 1:550,000

ELEVATION ZONES

1 - BELOW 4000 FT.
2 - 4000 TO 5000 FT.
3 - 5000 TO 6000 FT.
4 - 6000 TO 7000 FT.
5 - 7000 TO 8000 FT.
6 - ABOVE 8000 FT.

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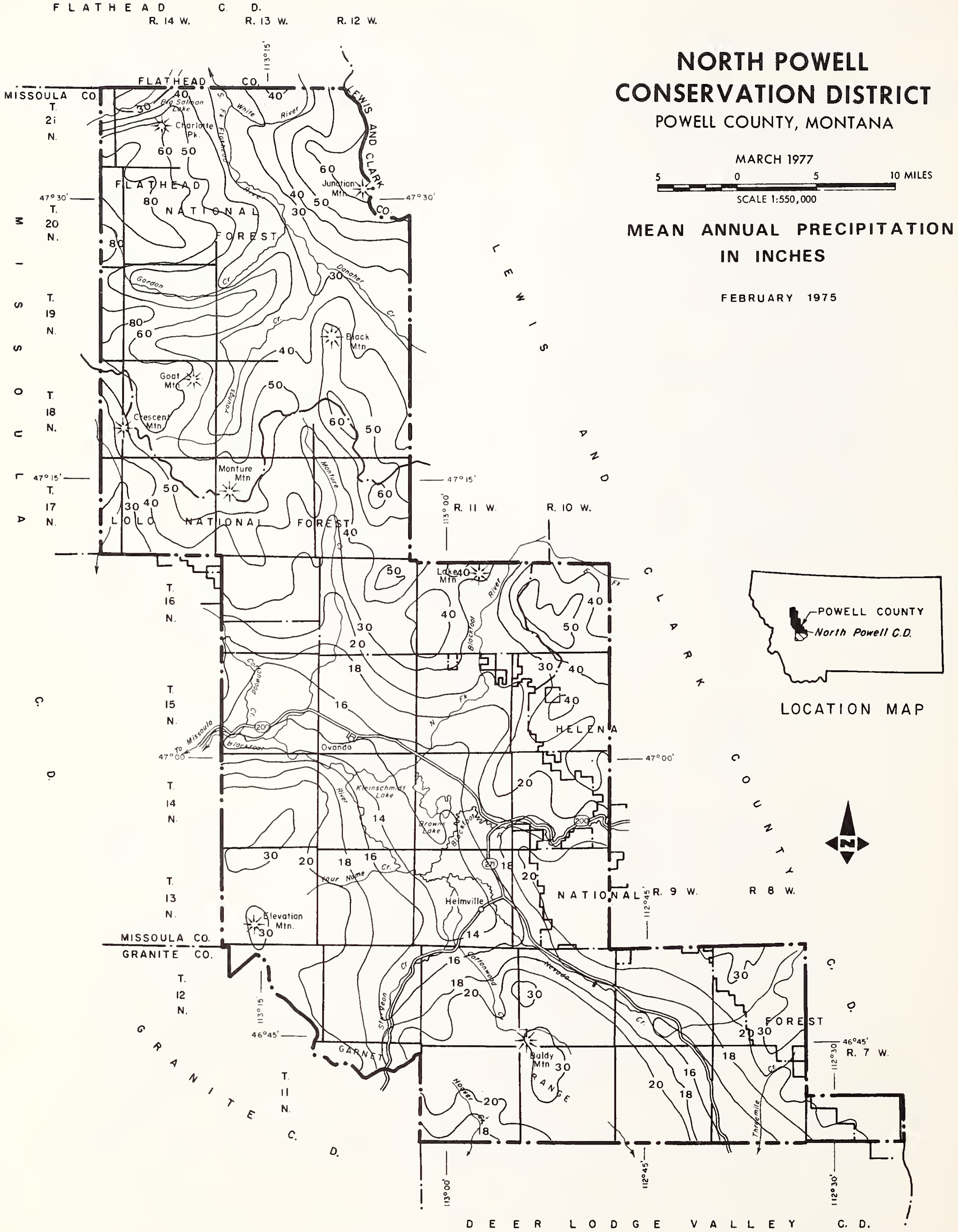

NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

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MEAN ANNUAL PRECIPITATION IN INCHES

FEBRUARY 1975

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PRECIPITATION ZONES

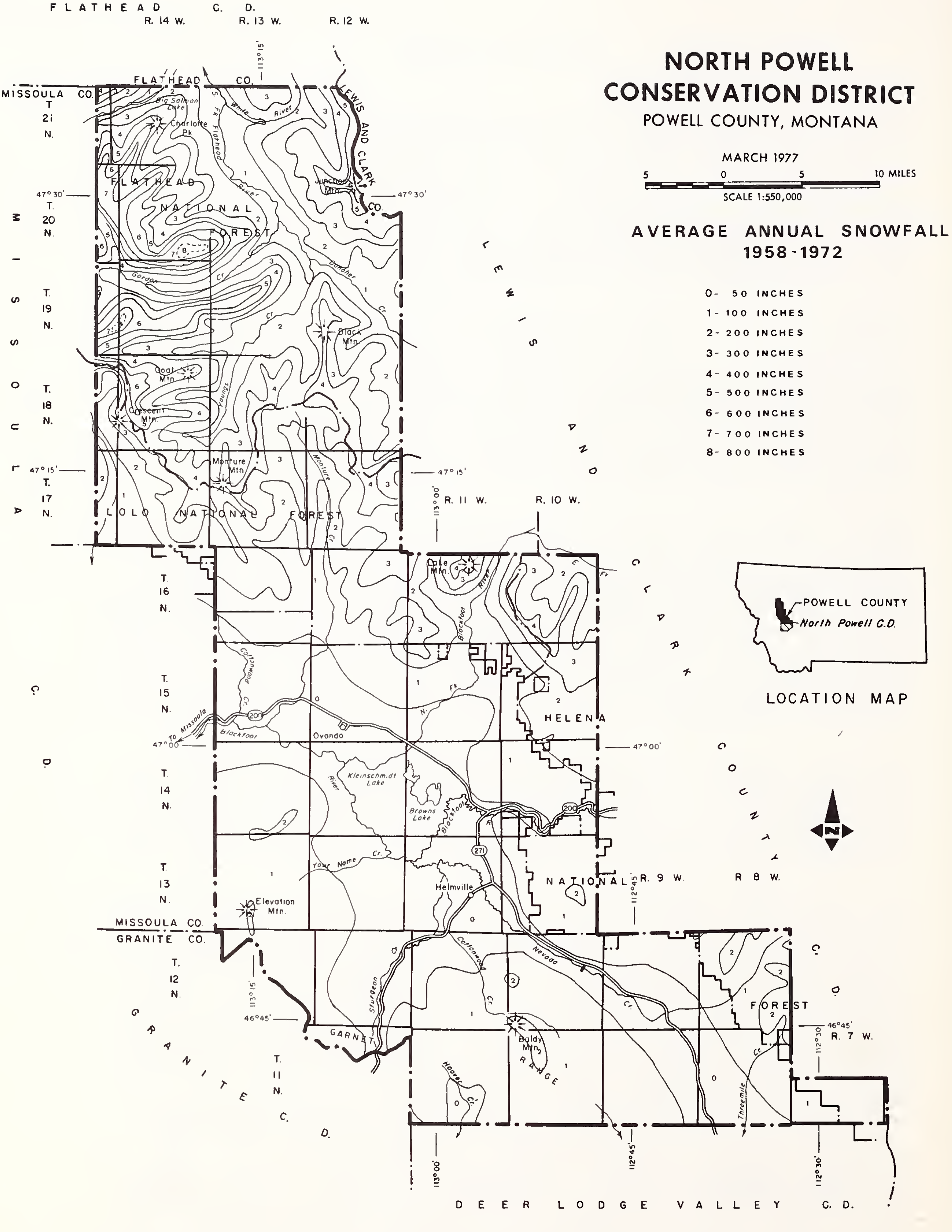
Average annual precipitation in the central and southern lower elevation valley areas ranges from below 14 inches to 20 inches. The lowest average annual precipitation zone of 12 to 14 inches is in the central valley Helmville-Ovando area. All of the hay, pasture and grain crops and most of the rangelands are in these 14 to 20 inch precipitation zones. Much of the privately owned woodlands and grazed woodlands are also in these precipitation zones. All of the rest of the district receives above 20 inches of precipitation annually.

Almost all of the area of the district receiving 20 inches of precipitation or more is forested or high elevation slide rock areas. Most of the higher elevations of the southern and central parts of the district and the lower elevations in the South Fork of the Flathead are in the 20 to 40-inch precipitation zones. The upper elevations of the northern part of the district are in the 40 to 80-inch precipitation zones with small areas along the northwest edge of the district in the 80 to 100 inch zone.

Much of the precipitation in the district comes in the form of snow during fall, winter and early spring periods. The remainder comes as showers and thunderstorms which normally peak in June. Heavy winter snowpacks are common, even in the lower elevation central and southern valley areas. Winter feeding periods are long and commonly average from about December 1st through May 15th. However, they can begin as early as October 15th and last through May. Extreme variations can occur from mild, open winters to cold, heavy snowfall winters and warm, dry summers to cool, wet summers.

At Ovando temperatures have ranged from 104 degrees Fahrenheit to a minus 48 degrees. January precipitation at Ovando has ranged from 3.91 inches to .13 inches and June precipitation from 4.71 inches to .83 inches in just a 10-year period. Similar wide variations would be common almost anywhere in the district.

The most recent wide variations in precipitation that affected the entire district occurred in 1973 and 1975. Low soil moisture, low winter snowfall and low summer precipitation combined to produce severe drought conditions during 1973. Mountain snowpack was so low that there was no significant "June rise" and stream flows were very low. Nevada Creek reservoir was empty by July 4th; the first time it was empty in its history. The winter of 1975 was relatively open and mild but severe spring storms in April and May deposited heavy snowpacks. One April storm alone deposited up to 30 inches of heavy, wet snow in the southern valley area. All drainages experienced at least one flood as these late season snowfalls melted. The main drainages experienced major flooding which peaked in mid to late June following moderate rainfall. Continued cool, moist weather reduced hay yields in some low lying areas and inhibited haying operations in all areas. Stream flows remained unusually high during the summer and fall and delayed needed repair of facilities damaged or destroyed by the earlier floods.



NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

SCALE 1:550,000

AVERAGE ANNUAL SNOWFALL 1958-1972

0- 50 INCHES
1- 100 INCHES
2- 200 INCHES
3- 300 INCHES
4- 400 INCHES
5- 500 INCHES
6- 600 INCHES
7- 700 INCHES
8- 800 INCHES

LOCATION MAP

Source:
Base map prepared by SCS, WTSC Cartographic Unit from 1:126,720 General Highway Maps.
Thematic detail prepared by State Staff.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE USDA-SCS-PORTLAND OR 1977

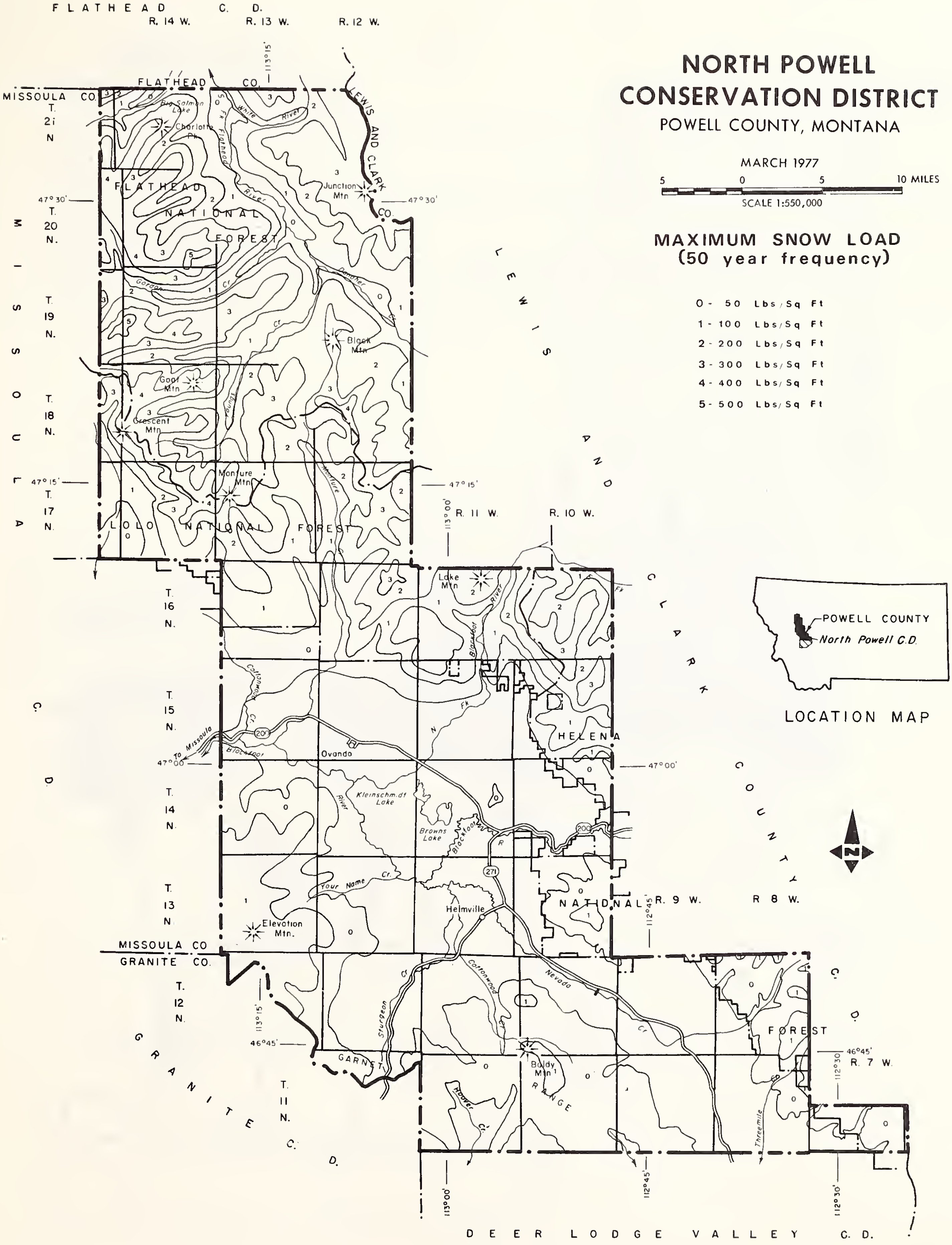
NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

MAXIMUM SNOW LOAD (50 year frequency)

0 - 50 Lbs/Sq Ft
1 - 100 Lbs/Sq Ft
2 - 200 Lbs/Sq Ft
3 - 300 Lbs/Sq Ft
4 - 400 Lbs/Sq Ft
5 - 500 Lbs/Sq Ft



Source:
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE USDA SCS-PORTLAND OR 1977

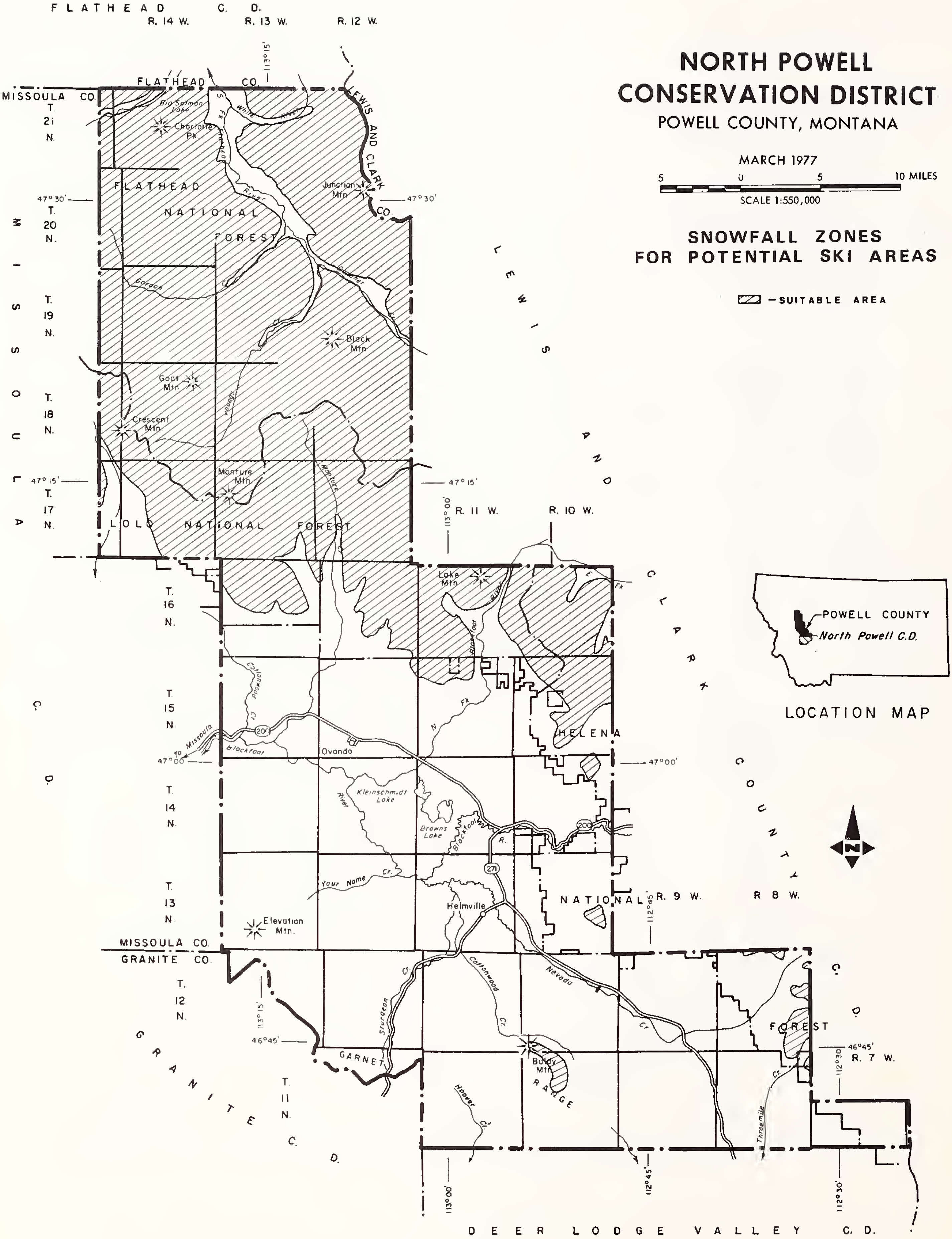
NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

SNOWFALL ZONES FOR POTENTIAL SKI AREAS

▨ – SUITABLE AREA



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SNOW

Mean annual snowfall within the district varies from less than 50 inches to over 800 inches.

Snow loads on structures vary from less than 50 pounds per square foot to over 500 pounds per square foot.

Snowfall runoff is important for irrigation water supplies, fisheries and recreation. Some areas in the district have adequate snowfall for potential ski area development.

NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

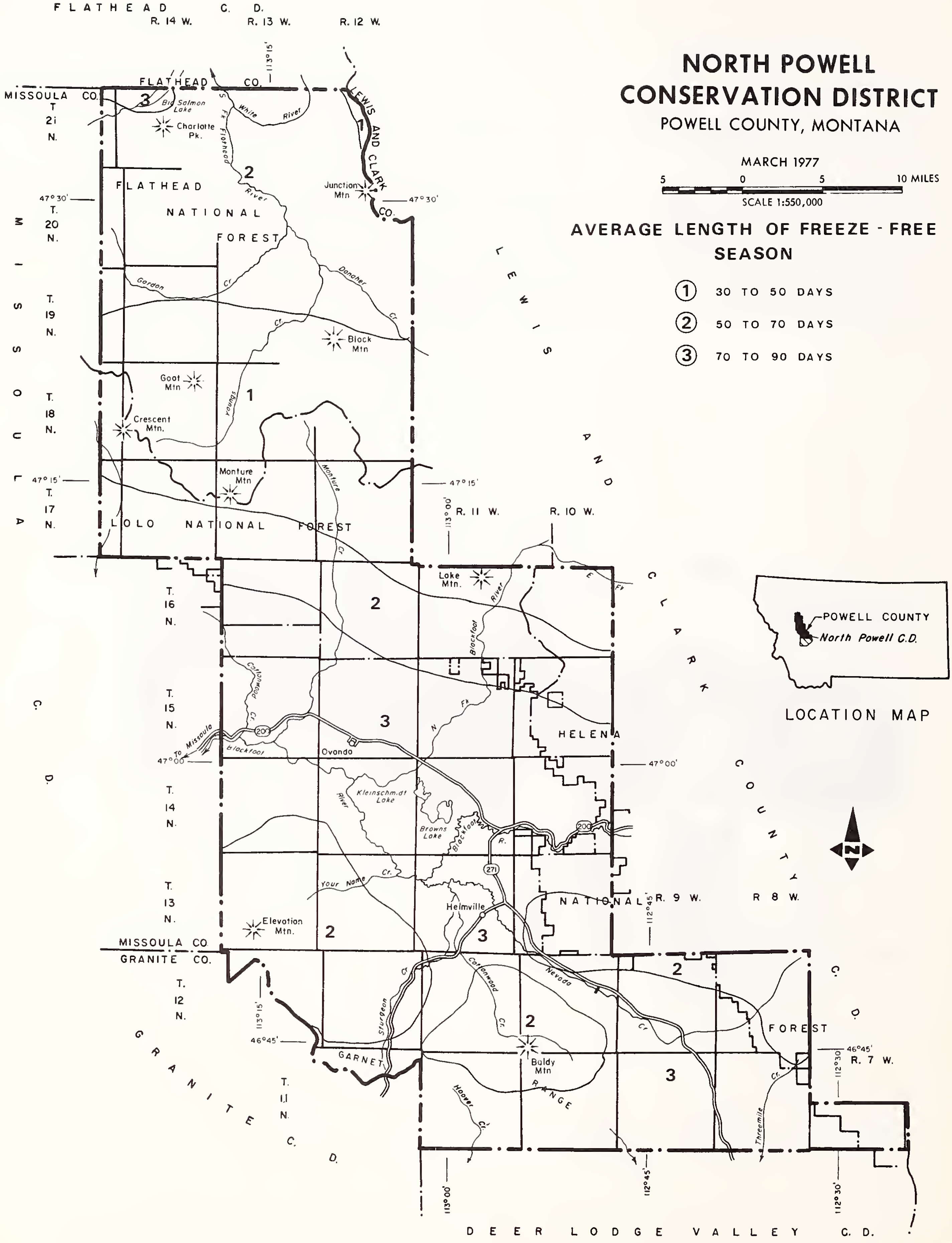
SCALE 1:550,000

AVERAGE LENGTH OF FREEZE - FREE SEASON

① 30 TO 50 DAYS

② 50 TO 70 DAYS

③ 70 TO 90 DAYS



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Thematic detail prepared by State Staff.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE USDA-SCS-PORTLAND OR 1977

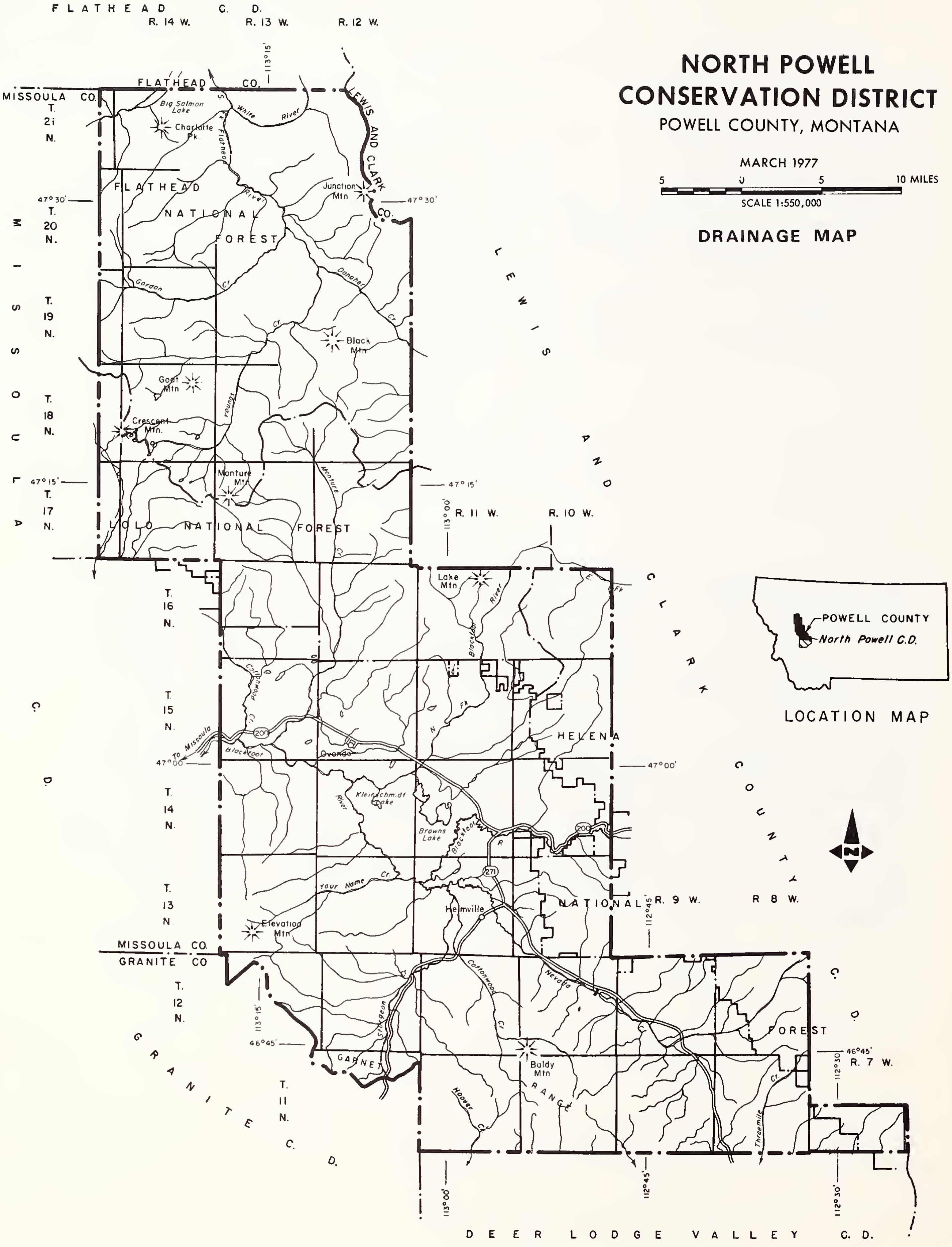
FREEZE-FREE SEASONS

The average length of the freeze-free season in the central and southern lower elevation valley areas of the district is in the 70- to 90-day zone. This is the zone where all of the agricultural uses of land for irrigated and dryland hay, pasture and small grain cropping takes place. The average date of the last spring freeze in this zone varies from approximately June 4th in the lowest elevation area along the Blackfoot River where the river leaves the district to June 19th in the higher elevations of the valley area along Nevada Creek-Little Blackfoot River divide. The average date of the first fall freeze is reversed with the lower areas receiving the first freeze earlier at about August 29th and the upper areas about September 5th.

The mid elevation and upper elevation areas of the southern and northern parts of the district are in the general 50 to 70-day freeze-free zone. The South Fork of the Flathead-Blackfoot Rivers divide area in the south half of the northern part of the district is in the 30 to 50-day freeze-free zone.

Agricultural uses of the land are generally limited to hay, pasture, range, woodland and small grains for hay due to the length of the freeze-free periods. Small grains for cash crops can not consistently be seeded, grown and harvested as long-term enterprize. Specialty crops such as corn, potatoes, etc. can not be grown at all on a commercial basis and only with moderate success as gardens in limited local sheltered areas.

Even in the general 70 to 90-day freeze-free major agricultural zone there can be considerable variations in local freeze-free periods. A good example of these local variations is the records at Ovando. Over a 28-year period the mean last spring 32-degree reading date is June 19th and the mean first fall 32-degree reading date is July 28th for an average 39-day freeze-free period. An average 77-day period from June 7th to August 22nd occurs for a 28-degree spring to fall reading.



NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

SCALE 1:550,000

DRAINAGE MAP

Source:
Base map prepared by SCS, WTSC Cartographic Unit from 1:126,720 General Highway Maps.
Thematic detail prepared by State Staff.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE USDA-SCS-PORTLAND OR 1977

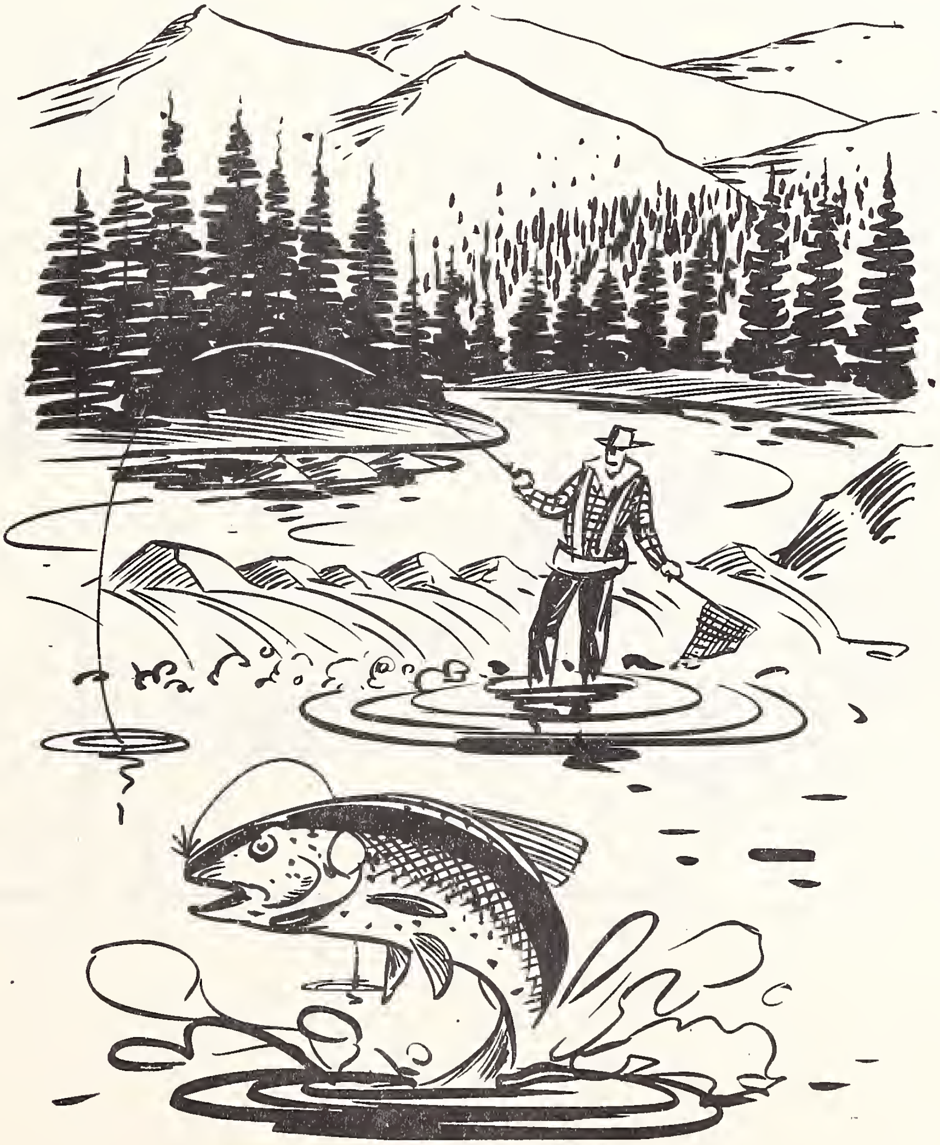
DRAINAGE

The drainage map shows the general pattern for the district.

Streams in the extreme southern part of the district flow southward into the Little Blackfoot-Clarks Fork Rivers system.

The central part of the district is drained by the Blackfoot River system. The Blackfoot River flows in a general east-west direction across the district. Main tributaries to the Blackfoot River include Nevada Creek in the southeast central area, Douglas-Cottonwood Creeks in the south and southwest central area, North Fork of the Blackfoot in the northeast central area and Monture Creek in the northwest central area.

The northern part of the district is drained by part of the Flathead River system. Most streams in this area flow in a general trending northward pattern forming the South Fork of the Flathead which leaves the district flowing in a northward direction.

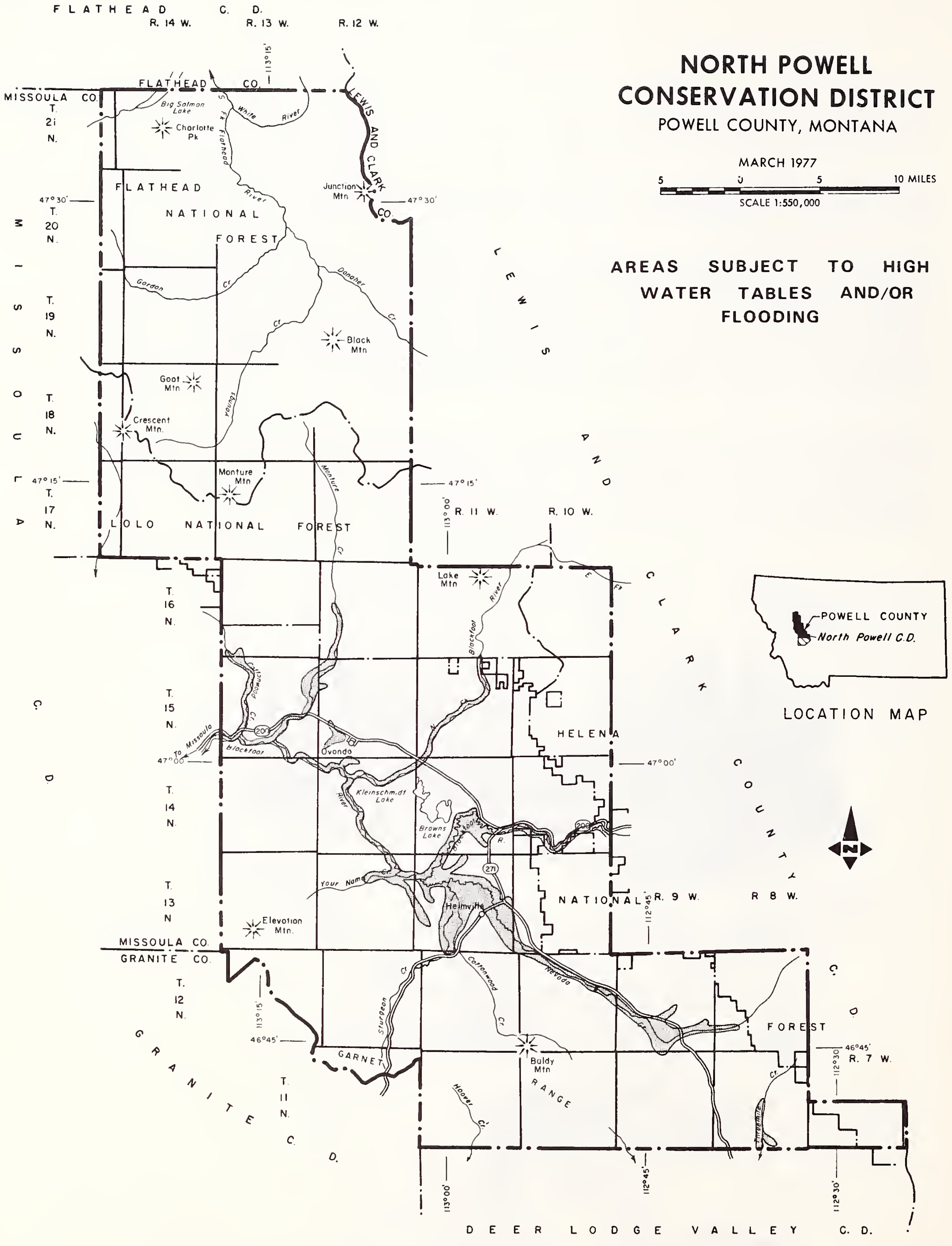


NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

AREAS SUBJECT TO HIGH WATER TABLES AND/OR FLOODING



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Base map prepared by SCS, WTSC Cartographic Unit from 1:126,720 General Highway Maps.
Thematic detail prepared by State Staff.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE USDA SCS-PORTLAND OR 1977

AREAS OF FLOODING OR HIGH WATER TABLES

Virtually all streams, perennial or intermittant, have an area adjoining their banks that is a flood plain. Generally, the larger the stream or river the larger the flood plain area. Flood plains can be narrow in restricted flow areas such as rocky or deep canyons or very wide in broad low lying valley bottom areas.

Most general flood plain areas can be recognized by studying the vegetation present, especially the kinds of trees and brush; by looking at the soil; by noting the presence of old stream changes and meander channels, and by noting debris deposited by previous flood flows.

The most commonly accepted flood level used in planning land use and management is the 100-year flood. A 100-year flood is one that has a 1% chance of occuring in any given year. The 100-year flood plain is the area along the stream that would be covered by the 100-year flood flow. Without a detailed study, the boundaries of the 100-year flood plain can not be accurately determined. There have been no 100-year flood plains determined within the district at the present. Flood hazard studies are needed on the major drainages in the district to assist land use planning and to prevent development in the flood plain areas. No residential, commercial or industrial development should be allowed in the flood plains. Activities or land uses in flood plains should be limited to such uses as recreation, wildlife, woodland, green space and limited agriculture such as pasture, hay or rangelands.

Areas where water tables are close enough to the soil surface to affect basements, foundations, septic tank or filter field operation should also be limited in use. In general, these areas should have planned land uses similar to the flood plains even though there may not be a flood threat to life and property.

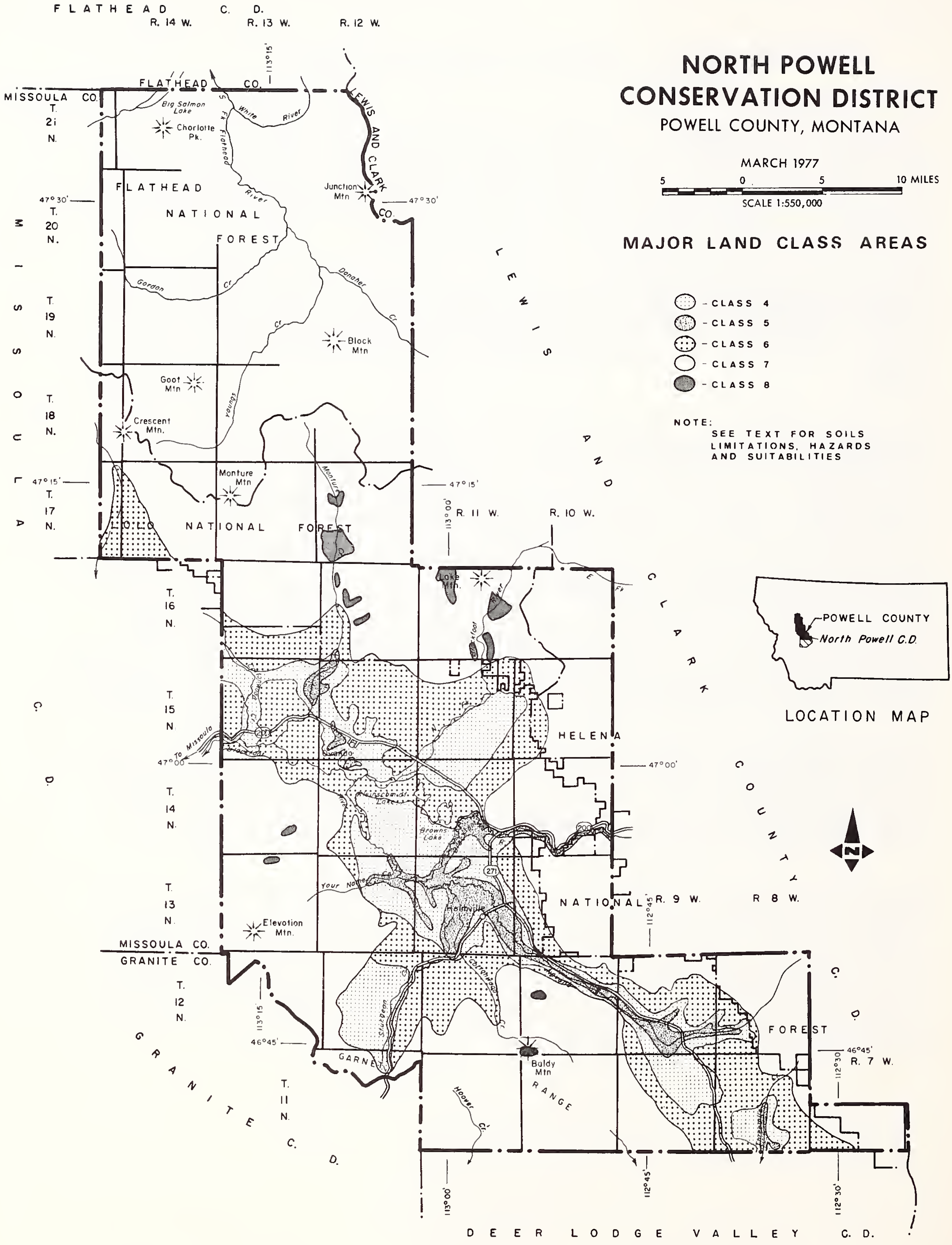
Many of the areas of high water tables in the district are in or adjacent to the flood plain areas. The major flood plain and high water table areas are along the valley bottoms of Nevada Creek, the lower end of the Douglas-Cottonwood Creeks area. Monture Creek, North Fork of the Blackfoot and the Blackfoot River bottoms, especially in the eastern half of the district upstream from the Blackfoot River bridge on the Helmville-Ovando county road.

NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

MAJOR LAND CLASS AREAS



- ░ - CLASS 4
- ▒ - CLASS 5
- ⁘ - CLASS 6
- ○ - CLASS 7
- ● - CLASS 8

NOTE:
SEE TEXT FOR SOILS LIMITATIONS, HAZARDS AND SUITABILITIES

POWELL COUNTY
North Powell C.D.

LOCATION MAP

Source:
Base map prepared by SCS, WTSC Cartographic Unit from 1:126,720 General Highway Maps.
Thematic detail prepared by State Staff.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE USDA-SCS-PORTLAND OR 1977

MAJOR LAND CLASSES

Land classes and land capability classifications can be accurately determined only with good soil survey information. There are no areas in the district that have standardized soil survey information available. However, some general land class areas can be interpreted based on general soils information, general growing seasons and climatic data, slopes, water tables, flood hazard and erosion hazards. The shortness of the general growing season in the district places even the best land in Class 4 due to the limitations on the number and kinds of crops that can be consistently grown.

Land classes can be divided into subclasses. These show the principal kinds of problems involved based on hazards or the major limiting factor to land use and treatment. Subclasses are: "e" for erosion as a major hazard, "w" for wetness with high water tables and or flooding as a major hazard or limiting factor, and "s" for soils with soil depth, texture, stoniness, etc. as a major limiting factor.

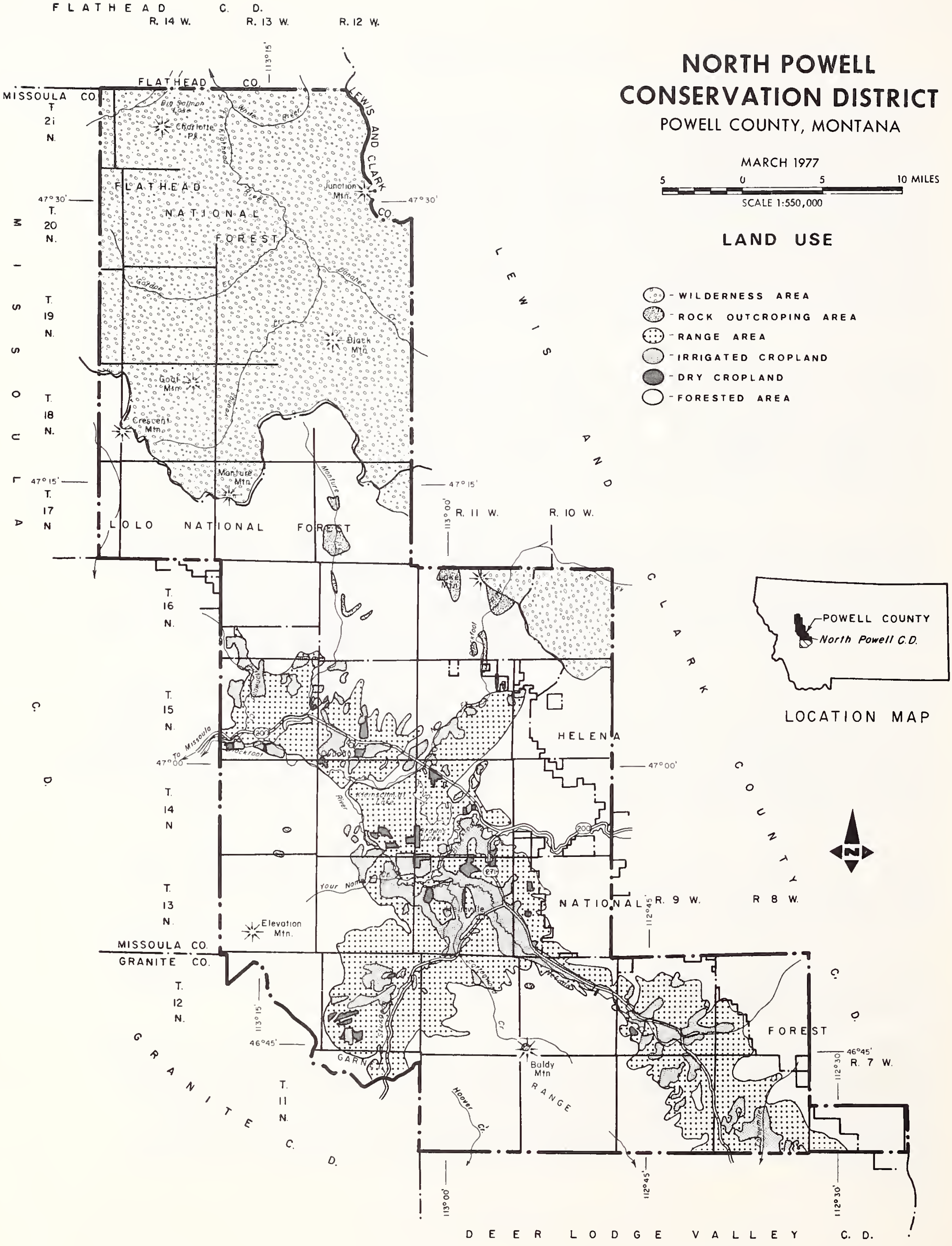
CLASS 4 - Soils in Class 4 are generally not suited for intensively cultivated crops such as row crops or specialty crops. Difficult or complex measures are usually needed to prevent erosion and maintain soil quality when cultivated. They are suited for growing only a few cultivated crops such as close growing small grains and hay. They are well suited for pasture range, woodland and wildlife.

CLASS 5 - Soils in Class 5 have minor erosion hazards but have other limitations that prevent normal tillage for cultivated crops. Within the district, Class 5 lands are generally affected by high water tables, surface ponding of excess water and/or flooding. These factors severely limit their use and or development. They are suited for pasture, range, woodland and wildlife.

CLASS 6 - Soils in Class 6 have severe limitations or hazards that make them unsuited for most cultivation. They are generally suited for pasture, range, woodland and wildlife.

CLASS 7 - Soils in Class 7 have very severe limitations or hazards that make them unsuited for cultivation. They are suited for range, woodland, wildlife and recreation.

CLASS 8 - Soils and land forms in Class 8 have hazards and limitations that prevent their use for cultivated crops, pasture, range or woodland. They may be used for recreation and wildlife. Most Class 8 lands delineated in the district are barren or nearly barren rock outcrops. Rock outcrops within the Wilderness Areas were not delineated.



NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

SCALE 1:550,000

LAND USE

- ○ - WILDERNESS AREA
- ▨ - ROCK OUTCROPING AREA
- ⁙ - RANGE AREA
- ▒ - IRRIGATED CROPLAND
- ● - DRY CROPLAND
- ○ - FORESTED AREA

LOCATION MAP

Source:
Base map prepared by SCS, WTSC Cartographic Unit from 1:126,720 General Highway Maps.
Thematic detail prepared by State Staff.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE USDA SCS-PORTLAND OR 1977

LAND USE

WILDERNESS--276,942 Acres

Located in the northern part of the Conservation District is 253,422 acres of the Bob Marshall Wilderness area. This area was formally established as a part of the National Wilderness Preservation system on September 3, 1964, but it had been managed as a primitive area since the 1930's.

Adjacent to the Bob Marshall Wilderness area in the northeastern part of the District lies 23,520 acres of the Scapegoat Wilderness area. This area was formally established on August 20, 1972.

GAME RANGE AND FISHING ACCESS SITES--5,977 Acres

There are 5,600 acres of State lands administered by the Department of Fish and Game in the Clearwater and Ovando Mountain Game Ranges. Also administered by the Fish and Game Department are 377 acres of State lands classified as fishing access sites.

WOODLAND--469,161 Acres

There are about 469,161 acres of woodland in the district. This acreage includes 8,831 acres of barren or essentially barren rock outcrop. About 269,794 acres are Federal lands which include the 8,831 acres of rock outcrop. There are 14,827 acres of State lands and 184,540 acres of privately owned woodlands.

RANGE--143,692 Acres

There are about 143,692 acres of rangeland in the district, of which 8,927 acres is Federal land, 7,778 acres is State land, and 126,987 acres is privately owned land.

CROPLAND--36,052 Acres

There are about 4,893 acres of dryland hay, pasture, and small grains in the District at the present time. Approximately 31,159 acres is presently under irrigation and used for pasture, hay, and small grains.

URBAN AND BUILT-UP, OTHER LANDS, AND SMALL WATER AREAS--8,872 Acres

There are about 976 acres of urban and built-up land in the district, 5,040 acres of small water areas, and 2,856 acres of other land such as farmsteads, rural residences, country schools, churches and cemeteries, borrow areas outside of rights-of-way, etc.

CROP, HAY AND PASTURE LANDS

There are approximately 36,052 acres of land within the district presently used for production of small grains, hay and tame pasture; 31,159 acres are irrigated, with 4,175 acres under sprinkler and 26,984 acres under flood irrigation systems. Only 4,893 acres are dryland hay, pasture and small grains.

Long term production potential of small grains as an annual cash crop in the district is poor. Many acres in the central valley Helmville-Ovando area were plowed up and farmed for small grain production during the war-time production eras of World War Two. Almost all of the dryland cropped acres were later abandoned when the production push was over. The long term average of being able to seed, mature and harvest small grains without being critically hampered by weather conditions in any given year is estimated at 50%. At present there is less than 400 to 500 acres farmed as small grain cash crops annually.

Most small grain production in the district is on land that is being prepared for hay or pasture plantings in normal crop rotations. An estimated 900 to 1200 acres of small grains is planted in this catagory yearly.

From 25,000 to 30,000 acres are cut as hay yearly depending on need, carry-over from previous years and market conditions. An average of 2400 to 2600 acres of this is dryland hay with a long term average yield of about 1.25 tons per acre. An average of about 25,000 acres is irrigated lands cut for hay with a long term average yield of about 2.5 tons per acre for alfalfa grass mixtures and 1.75 for grass hay.

An average of about 7000 acres is grazed as pasture. About 1950 acres of this is dryland pasture with a long term average yield of about 1 animal-unit-month of grazing per acre. About 6050 acres is used as irrigated pasture with a long term average yield of 2.5 to 3 animal unit months of grazing per acre.

Almost all hayland acres are also grazed, either in early spring before rangeland is ready to be grazed or late fall after hay harvest has been completed. Long term average yields of grazed haylands is .5 to 1 animal-unit-month per acre. This heavy grazing use of haylands is a factor in reducing long term average hay yields.

In most areas hay and pasture yields could be improved. Intensified management, especially on the best acres, could improve yields on these acres greatly. Improved irrigation systems and water management, fertility programs, use of good rotation cropping systems and reseeding with improved plant varieties could greatly increase production.

At least half of the district's irrigated lands are presently not suited for active cultivation to establish cropping systems or plantings of improved plant varieties, to carry out land leveling or to reorganize flood irrigation systems properly. Most of this land is in areas of steep slopes, valley bottoms interlaced with gravel bars or old filled meander channels, areas subject to flooding and areas of natural high water tables or water tables raised through overirrigation. Drainage projects, installation of sprinkler systems, reorganization of existing flood systems and improved irrigation water management are needed on most of these acres in order to increase production.

Use of land for crops, hay and pasture has increased during the past several years. During about the last 6 years there has been an increase of 1890 acres of dryland and 2310 acres of irrigated land used as crop, hay or pasture. Most of this increase has been on areas that were previously cropped during wartime production pushes and later abandoned as cropland and presently used as range. A gradual but steady increase in use of land for crops, hay and pasture is expected to continue.

WOODLAND

There are about 469,161 acres of woodland in the Conservation District. About 269,794 acres are Federal lands which include 8,831 acres of barren or essentially barren rock outcrop. 14,827 acres are state lands and 184,540 acres are privately owned woodlands.

Noncommercial forest land covers about 101,858 acres including the 8,831 acres of rock outcrop. Of this noncommercial forest land 920 acres are state lands, 4,848 acres are privately owned lands, and 95,890 acres including the areas of rock outcrop are Federal lands.

Commercial forest lands cover about 368,503 acres of the district. 13,907 acres are state lands, 173,904 acres are Federal lands and 179,692 acres of commercial forest lands are privately owned.

There are 214,489 acres of grazable woodland in the district of which 12,951 acres are grazable non-commercial woodlands and 201,538 acres are grazable commercial woodlands. Of the districts grazable woodlands, 11,634 acres are state lands with 872 acres of non-commercial and 10,762 acres of commercial grazable woodland; 52,070 acres are Federal lands with 7,410 acres of non-commercial and 44,660 acres of commercial grazable woodland, and 150,785 acres are private lands with 4,669 acres of non-commercial and 146,116 acres of commercial grazable woodland.

The major species of trees include Douglas-fir, lodgepole pine, ponderosa pine and western larch. Smaller amounts of Engelmann spruce, subalpine fir and alpine larch also are present. Black cottonwood and quaking aspen occur in wetter areas and along stream bottoms.

Most of the easily accessible, lower elevation and gentler sloping forested areas have been commercially harvested in the past. In general, past harvesting practices were carried out with little emphasis toward sound forest management.

Due to this past history, most commercial timber stands presently fall within one of the following catagories:

(a) Overmature stands, declining in vigor, losing volume and in need of harvest.

(b) Overstocked stands stagnated by high densities of small diameter trees with reduced growth rates in need of thinning.

(c) Understocked stands needing additional plantings to bring the forest to full productive capacity.

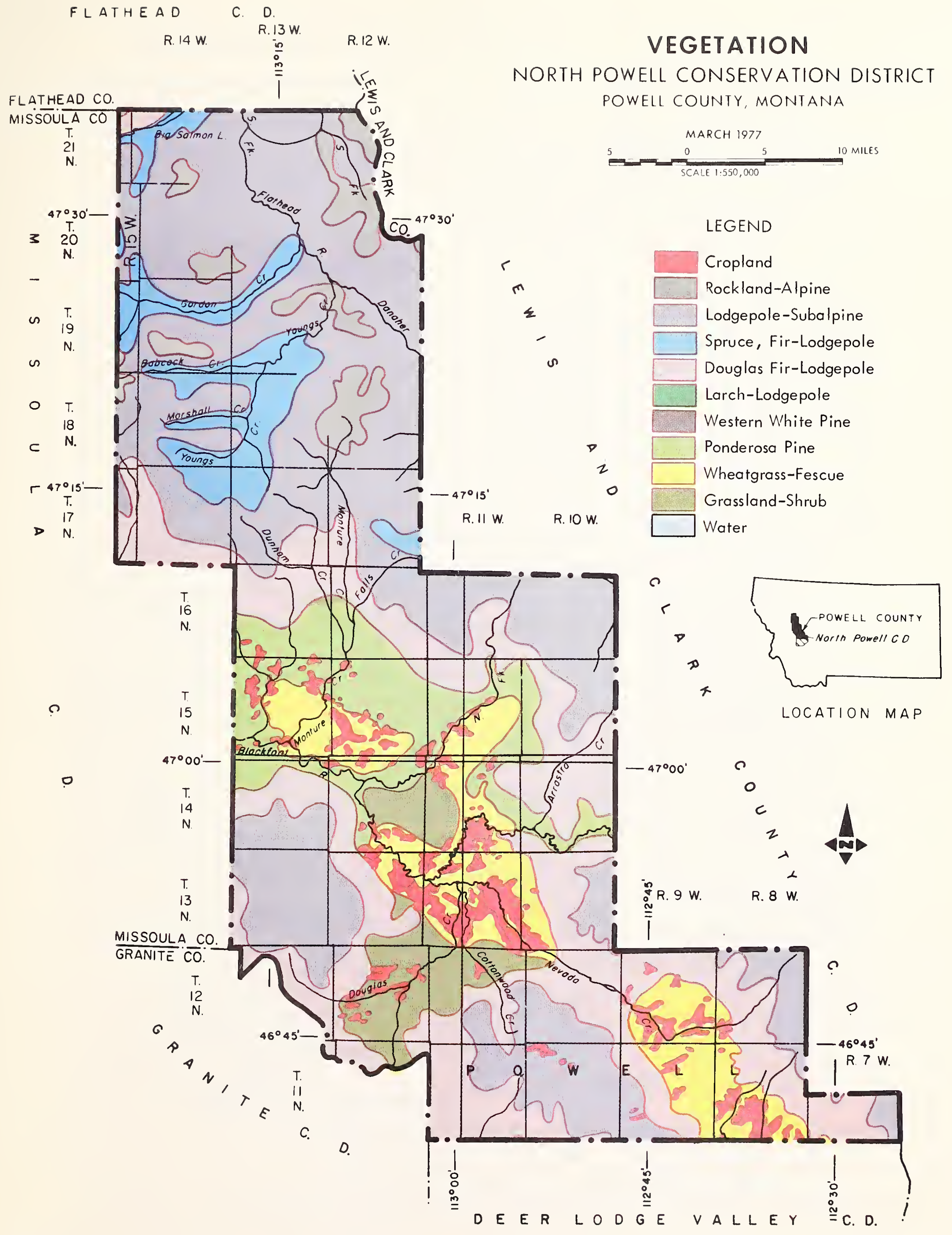
(d) Properly stocked timber stands with a vigorous growth rate compatible with soil and climate.

An estimated 3 to 5% of the commercial timber stands are presently properly stocked and under some type of acceptable management system. An estimated 20 to 23% is presently understocked and needs some intensity of site preparation for natural regeneration or planting. The remaining estimated 75% require thinning, commercial harvest or selective logging to improve quality and growth rates of the remaining stand.

The greater part of the unmanaged timber stands are presently producing at a rate considerably below their potential. If placed under good management, most of the district's timber lands would be capable of producing an average annual yield of 200 board feet per acre.

Insects and disease are prevalent throughout much of the woodland area. Spruce budworm is attacking stands of Douglas-fir, subalpine fir and Engelmann spruce with damage most prevalent in stands of Douglas-fir. Dwarf mistletoe is a parasite that occurs in most tree stands. It is generally most prevalent in stands of lodgepole pine and adversely affects growth and quality. Dwarf mistletoe also commonly occurs in stands of Douglas-fir but is generally not as prevalent as in lodgepole pine stands.

Present control efforts for insect and disease consist primarily of harvesting the infected or dead trees whenever economically feasible. Clearcutting is a method commonly used to sanitize a stand infected with mistletoe.



VEGETATION

NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

SCALE 1:550,000

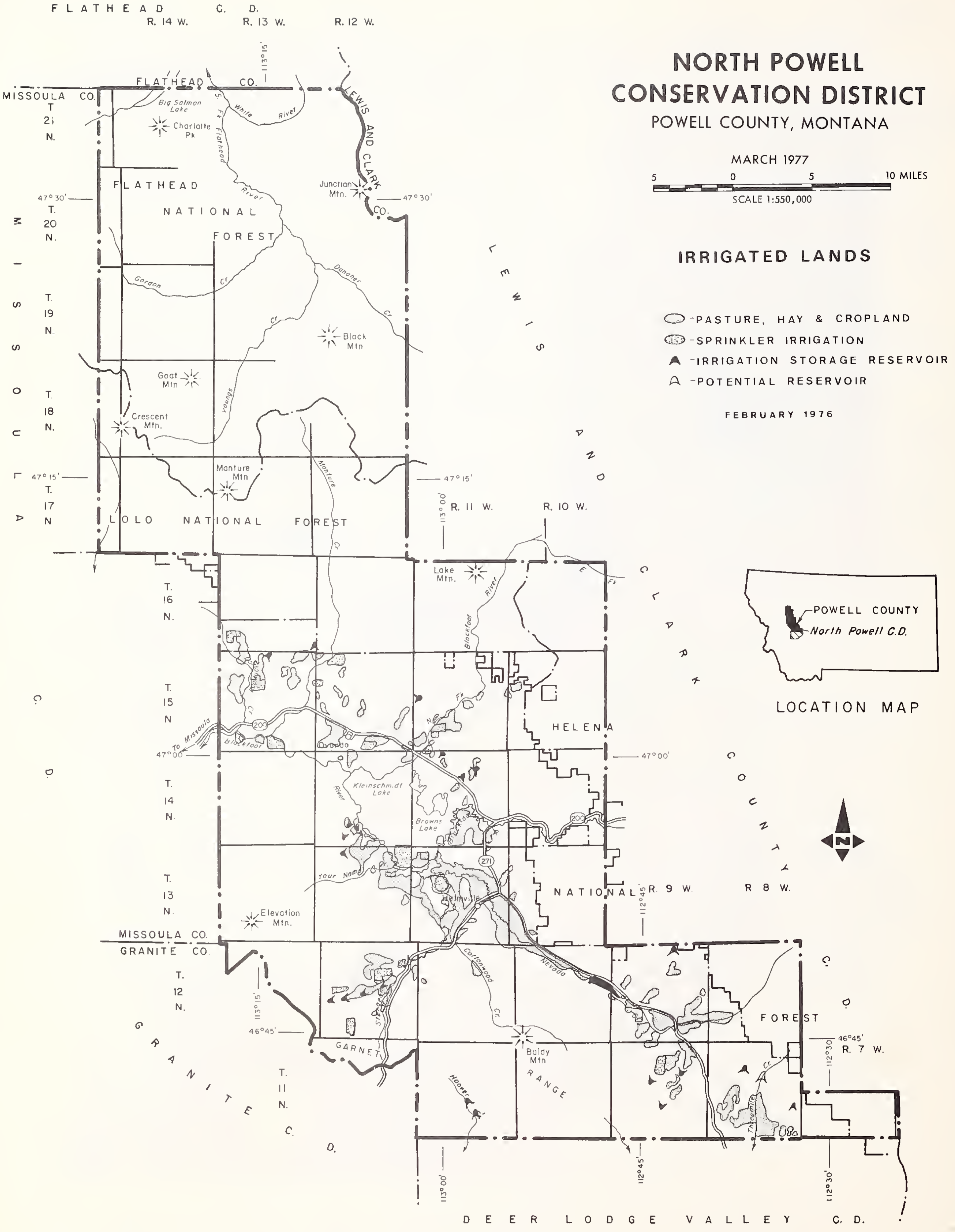
LEGEND

- 🟥 Cropland
- ▨ Rockland-Alpine
- ▨ Lodgepole-Subalpine
- 🟦 Spruce, Fir-Lodgepole
- ▨ Douglas Fir-Lodgepole
- 🟩 Larch-Lodgepole
- ▨ Western White Pine
- 🟩 Ponderosa Pine
- 🟨 Wheatgrass-Fescue
- ▨ Grassland-Shrub
- ☐ Water

LOCATION MAP

Source:
Base map prepared by SCS, WTSC Cartographic Unit from 1:126,720 General Highway Maps.
Thematic detail prepared by State Staff.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE



NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

5 0 5 10 MILES

SCALE 1:550,000

IRRIGATED LANDS

- ⬭ -PASTURE, HAY & CROPLAND
- ▨ -SPRINKLER IRRIGATION
- ▲ -IRRIGATION STORAGE RESERVOIR
- △ -POTENTIAL RESERVOIR

FEBRUARY 1976

Source:
Base map prepared by SCS, WTSC Cartographic Unit from 1:126,720 General Highway Maps.
Thematic detail prepared by State Staff.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE USDA-SCS-PORTLAND OR 1977

WATER AND IRRIGATION

The North Powell Conservation District is a relatively high mountain area which annually produces a large amount of water. Peak streamflows normally occur in late May or early June when high elevation snowpacks melt. Slight to moderate flooding is common on the lower lying areas along the major streams during normal "high water" periods. Only a small part of the water produced within or flowing through the district is used within the district. Most of the water used is diverted for irrigation.

Numerous small streams and springs or seeps are present in most range and grazable woodland areas. However, many of these springs or seeps need development to provide adequate properly spaced livestock water supplies. Domestic and livestock water supplies for ranch headquarters and rural living sites are generally available in most areas from springs or relatively shallow wells. There is only one major irrigation well in the district at present. There are only a few stockwater wells and very few stockwater dams or dugouts in the district.

Cooper's Lake, Brown's Lake, Kleinschmidt Lake and Upsata Lake are the major natural lakes in the central valley area. Many mountain lakes are present in the Wilderness areas. Numerous smaller lakes and potholes are present in the Helmville-Ovando area and northwest of Ovando in the central valley part of the district.

Nevada Creek Reservoir forms a man made lake in the southeastern part of the district. This project was constructed by the State Water Conservation Board in the late 1930's and consists of the dam, reservoir and two main canal systems for irrigation water delivery and distribution. Although the project was built primarily for storage of water for late season irrigation, it does provide some flood control and recreation benefits. The Nevada Creek Water Users recently completed repair of the outlet controls of the dam. The concrete spillway is badly deteriorated and needs replacement. The North Helmville Canal has major seepage losses. This loss adversely affects adjacent low lying haylands and prohibits delivery of adequate, timely water supplies to users on the north end of the canal. The reservoir has a storage capacity of 12,640 acre-feet and covers a 448 acre area.

In addition to the Nevada Creek Reservoir there are 26 small irrigation storage and regulating reservoirs in the district. These smaller reservoirs store approximately 2725 acre-feet of water for late season irrigation. Storage capacity ranges from 1 to 2 acre-feet regulating reservoirs up to 335 acre-feet. Most good, natural reservoir sites are already in use. Several smaller capacity potential reservoir sites have been identified but detailed investigations have not been carried out on most of these sites. Two larger capacity potential reservoir sites, one at the upper end of Douglas Creek Canyon and one in upper Three Mile Creek have been identified but detailed investigations have not been made.

Three major problems exist in the present use of the district's water for irrigation. They are:

1. Lack of adequate storage for late season water supplies;
2. Inadequate or inefficient delivery systems from point of diversion to point of use; and
3. Inadequate or inefficient distribution systems at the point of use and poor water management.

The construction of irrigation storage reservoirs, including the Nevada Creek Project, has provided late season irrigation water supplies for much of the district's irrigated acres. However, many acres still lack adequate late season water supplies, especially during drier years. Opportunities to provide needed late season water supplies or to expand irrigated acreages through the construction of reservoirs are limited.

Inadequate or inefficient delivery systems can be improved through such methods as consolidation or canal systems, relocation of existing systems, canal sealing or lining, etc. However, these methods are usually very costly and most landowners or groups of landowners find the costs prohibitive under their present economic situation.

Many water users apply an excessive amount of water to their irrigated hay and pasturelands, especially during high water spring runoff. This is especially true of the lower Nevada Creek area under the Nevada Creek Project. Over irrigation and canal seepage losses raise water tables and reduce yields, delay haying operations and expand boggy areas. Inadequate or inefficient distribution systems and water management can be improved through such methods as system reorganization, land shaping or leveling, changing to sprinkler irrigation and applying good irrigation water management.

Most of the recent improvement in irrigation efficiency and water management has been through installation of sprinkler systems. Within about the last 6 years almost 4,000 acres have been put under sprinkler irrigation. Much of this area, about 2,310 acres, is new land brought into production through installation of sprinkler systems.

There are presently about 31,159 acres under irrigation in the district. About 26,984 acres are presently flood irrigated and 4,175 acres are sprinkler irrigated. It is expected that irrigated acreage will continue to increase, largely due to installation of sprinkler systems on new land.

The district will continue to promote efficient water use and good irrigation water management. The district also will continue to promote improved range and woodland management to improve watershed protection, maintain water quality, prevent excessive flooding and to prevent or reduce erosion and sedimentation. The newly implemented Senate Bill 310 will be used to monitor work done on the district's streambanks and to protect stream systems from unnecessary alteration or disturbance.

GRAZING RESOURCES

RANGE AND WOODLANDS

There are approximately 143,692 acres of rangeland and 214,489 acres of grazable woodlands in North Powell Conservation District available for the grazing of livestock and wildlife. The Department of Fish and Game lands are used only for wildlife. The acres of rangeland for livestock grazing include 5,107 acres of National Forest lands; 3,820 acres of Bureau of Land Management lands; 1,016 acres of Division of Forestry lands; 6,762 acres of State Land Department lands; and 126,987 acres of privately owned lands.

The 214,489 acres of woodlands used for livestock grazing include 3,649 acres of National Forest lands, 48,421 acres of Bureau of Land Management lands, 11,040 acres of Division of Forestry lands, 594 acres of State Land Department lands and 150,785 acres of privately owned lands.

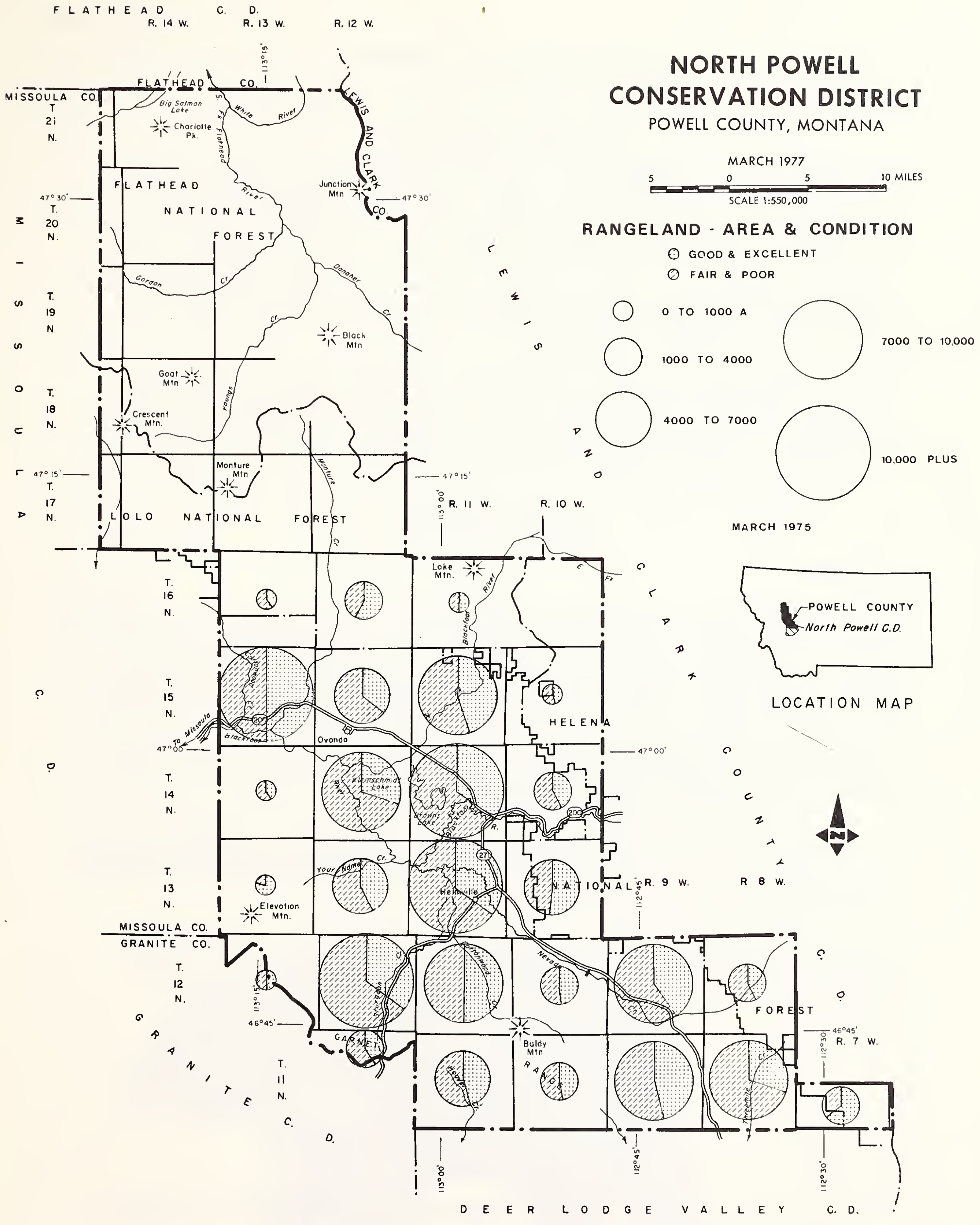
About 42% of the range resource is in good to excellent range condition and is producing high quality forage from vegetation adequate to prevent soil loss and sedimentation and to protect against large weed infestations. About 58% of the range resource is in fair or poor range condition. These acres are not producing the amount or quality of forage they are capable of. The ground cover on these acres is not adequate to prevent soil erosion and sedimentation or to offer any competition against weed or brush infestations. Management practices such as proper grazing use, planned grazing systems, deferred grazing and proper stocking rates are needed to improve the areas now in fair and poor range condition and to maintain the areas in good and excellent range condition. In addition, sagebrush and noxious weed control programs are needed on many areas together with grazing management practices to assist in increasing vigor and density of the desirable plant cover. Additional fencing and stock water developments are needed in many areas in order to establish planned grazing systems and apply proper grazing management.

Grazable woodlands are areas in which the climax vegetation is trees (forest). Grazing by domestic livestock is a secondary (though valuable) land use. Woodland grazing is a temporary use in that as the canopy of trees becomes more dense after a fire or logging, the forage available becomes less. An open stand of mature ponderosa pine may be of great value for grazing but a dense stand of Douglas-fir will be of little grazing use.

NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977



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FISH & WILDLIFE RESOURCES

FISHERIES RESOURCES

The North Powell Conservation District contains a vast resource of waters suitable for fisheries. The area does not have any streams which are classified as blue ribbon, but does contain 36 miles of red ribbon, 137 miles of yellow ribbon, and 51 miles of gray ribbon fishing streams.* Nineteen fishable lakes, ponds, or reservoirs with a total surface area of over 2000 acres occur within the district. Numerous small lakes and ponds which do not have a reproducing game fish population are also present.

Fish inhabiting waters of the district include; rainbow, cutthroat, brown and eastern brook trout, Dolly Varden and mountain whitefish. Non-game fish such as yellow perch, squawfish, suckers and sculpins are present in some of the lakes and streams.

WILDLIFE RESOURCES

Big Game

One of the major attractions of the district is the wildlife resources. Animals classified as big game which occur within the district include; White-tailed deer, mule deer, elk, moose, goats, bear and mountain lion. Maintainable populations of these animals are dependent upon suitable habitat. Summer ranges are abundant and capable of sustaining large population numbers. Winter range is thought to be the limiting factor for maximum populations within the area, as the winter range which is necessary for big game animals is also used by man for domestic livestock grazing, urbanization, etc.

Most of the winter range areas are in the lower elevation foot slopes and valleys. It is in this same general area where man's year round activities are concentrated.

There are two game ranges in the district at present. The Ovando Mountain area northeast of Ovando and part of the Clearwater Game Range on the District's western boundary are located within the district.

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* Montana Department of Fish and Game "A Classification of Montana Fishing Streams" 1965.

Upland Game

Upland game in the area is abundant and generally widespread. Game birds are usually associated with specific types of vegetation and their habitat within the district has a direct correlation with the type of vegetation present in any given area. Upland game which inhabits the area includes blue grouse, spruce grouse, ruffed grouse, gray partridge, white-tailed ptarmigan and a few sharp-tailed grouse. This resource, especially the forest grouse portion, is generally considered to be under utilized.

Waterfowl and Furbearers

Fair populations of geese and ducks utilize the wetland areas of the district in all seasons except winter. The wetland areas are also excellant habitat for furbearers such as beaver, mink and muskrat.

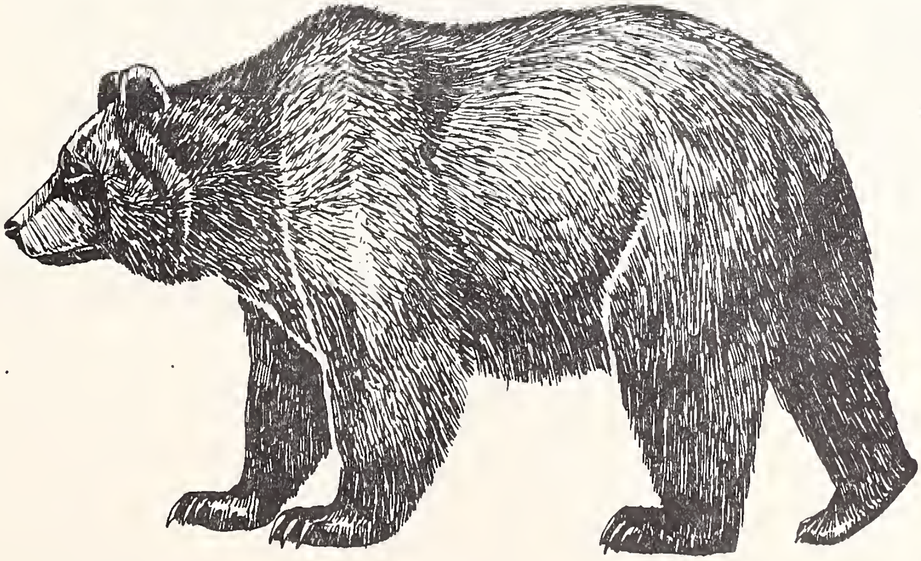
Many of the small water areas in the central valley potholes part of the district furnish rest and nesting sites for migratory waterfowl. This is especially true in normal to wetter than normal years where the surrounding vegetation is not overgrazed. Duck hatch populations could easily be increased with improved grazing management and use of grazing systems.

Non-game

Over 200 species of non-game animals, birds, reptiles and amphibians occur within the North Powell Conservation District. This group includes such species as the Northern three-toed woodpecker, the western garter snake, the spotted frog and the badger.

Threatened and Endangered Species

Two endangered species could occur in the district. They are the Peregrine Falcon and the Northern Rocky Mountain Wolf. Threatened species include the Grizzly bear and the Prairie Falcon. Extreme care should be taken not to disturb the habitat of any bird or mammal which is listed as threatened or endangered.



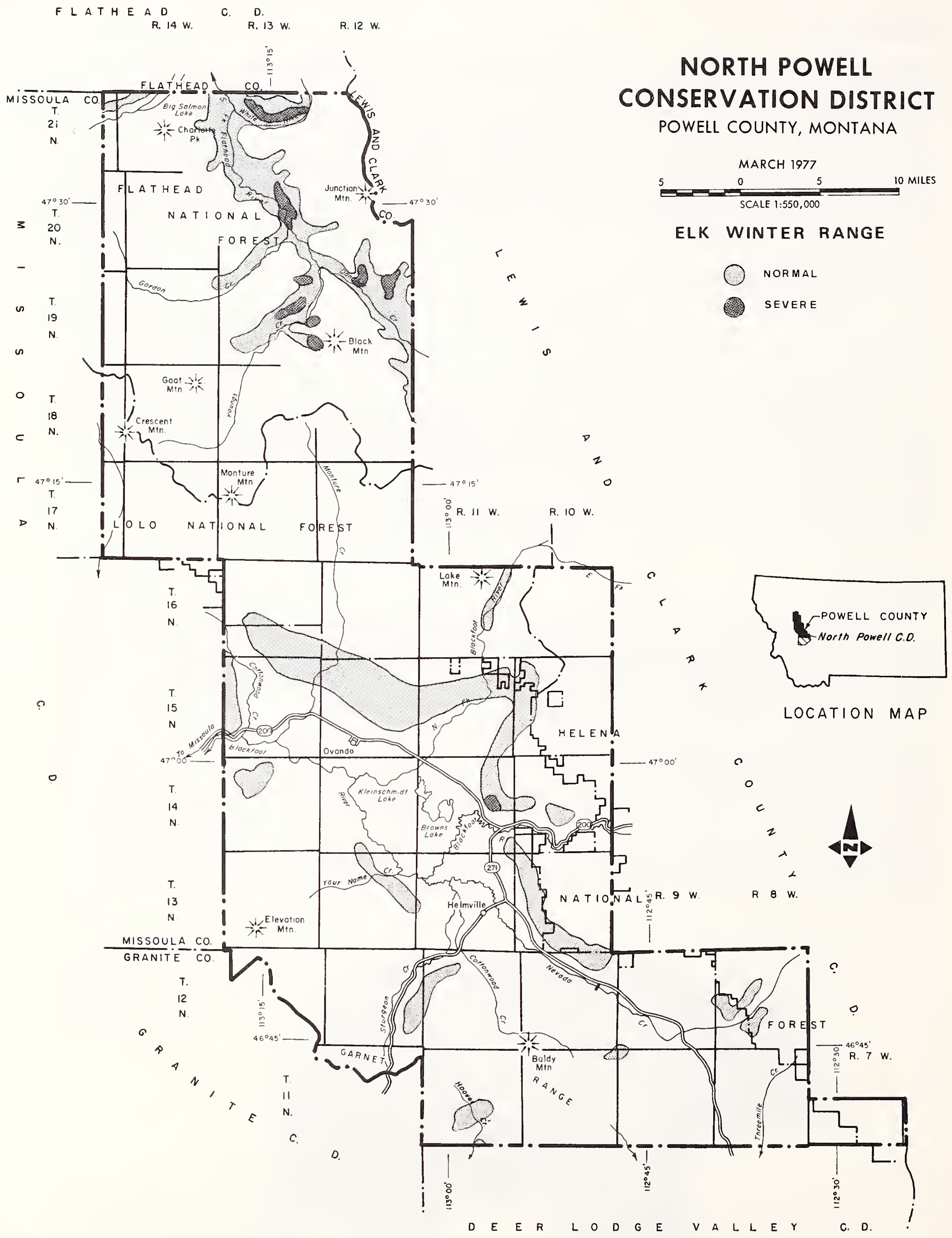
NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

SCALE 1:550,000

ELK WINTER RANGE



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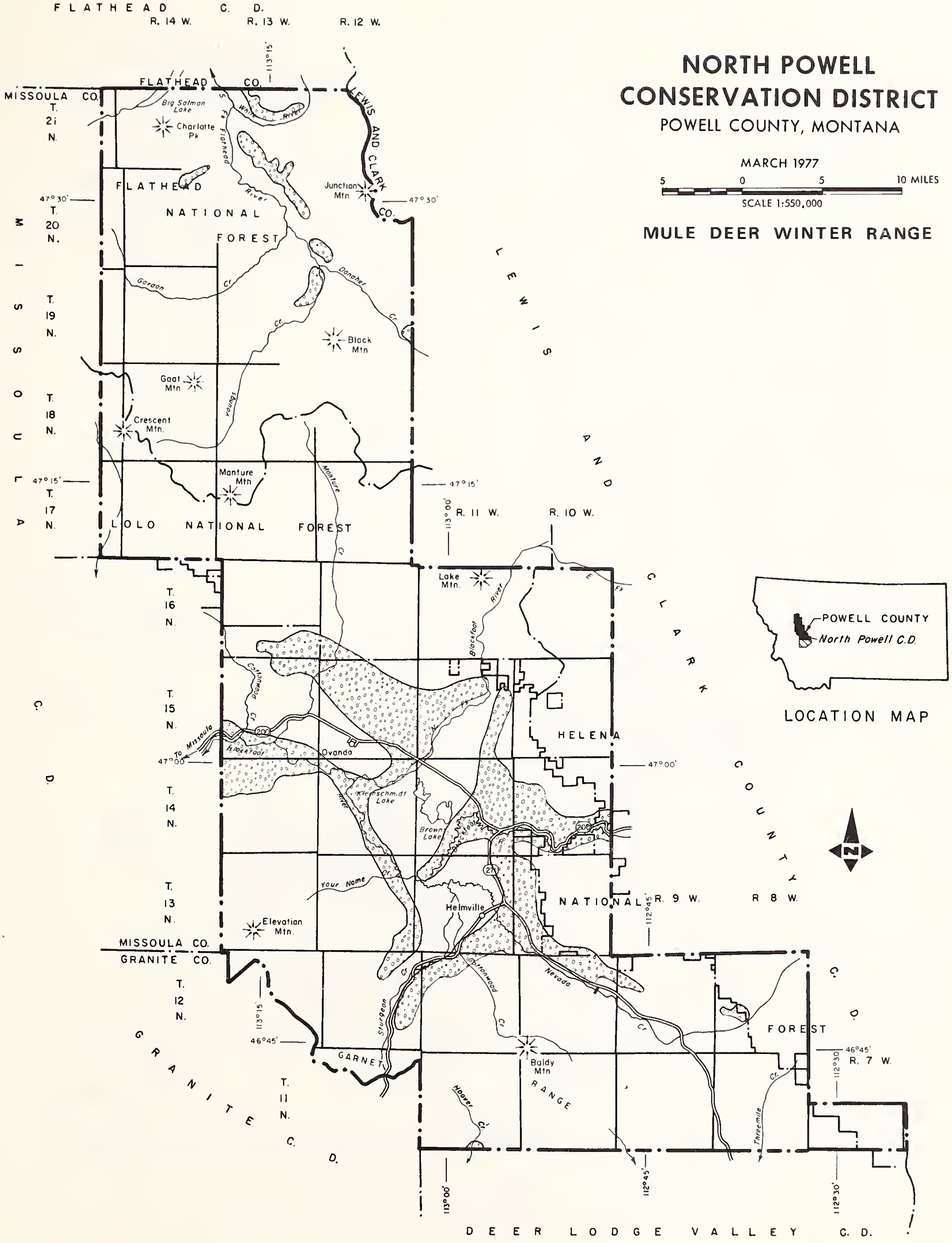
NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

SCALE 1:550,000

MULE DEER WINTER RANGE



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NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

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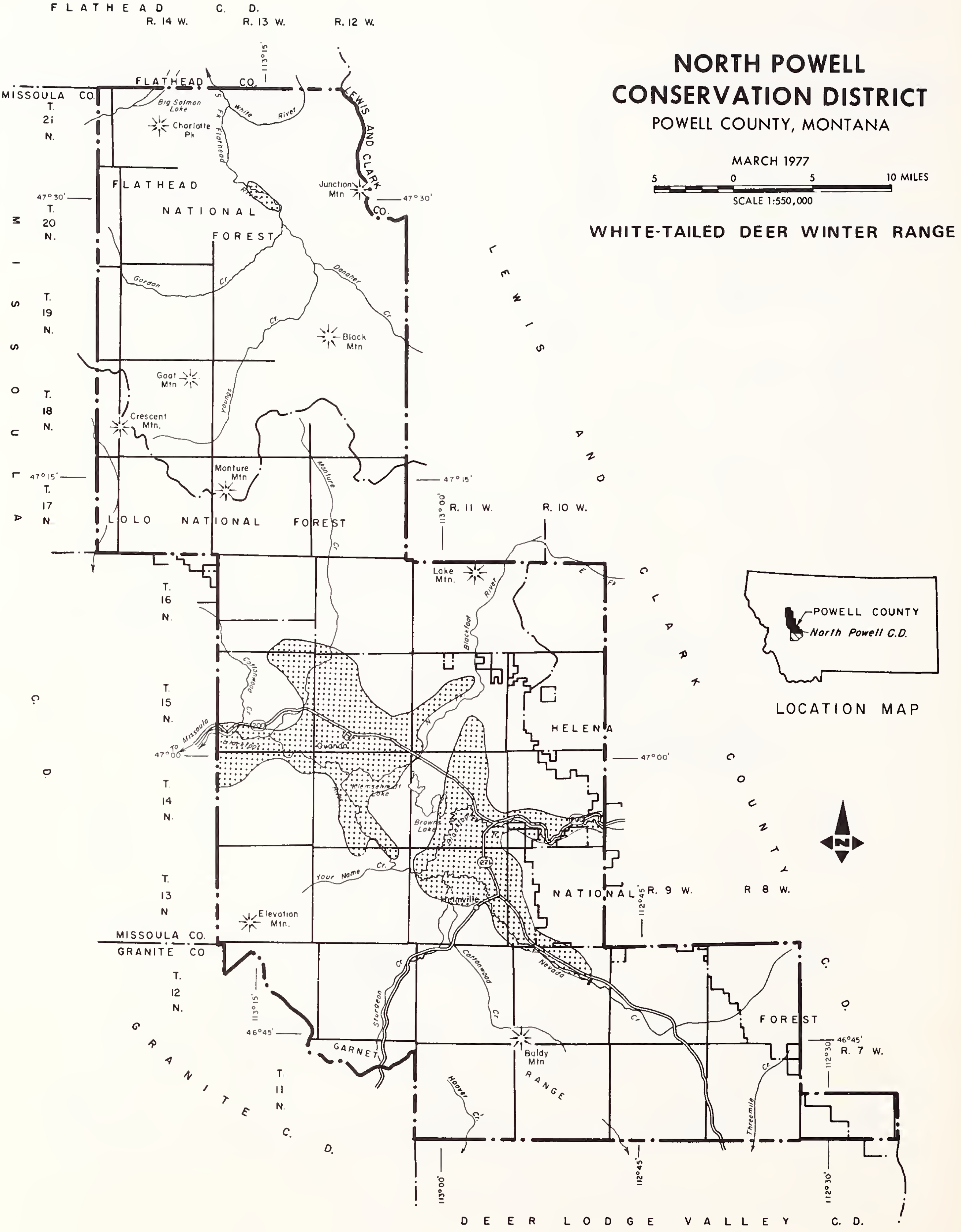
WHITE-TAILED DEER WINTER RANGE



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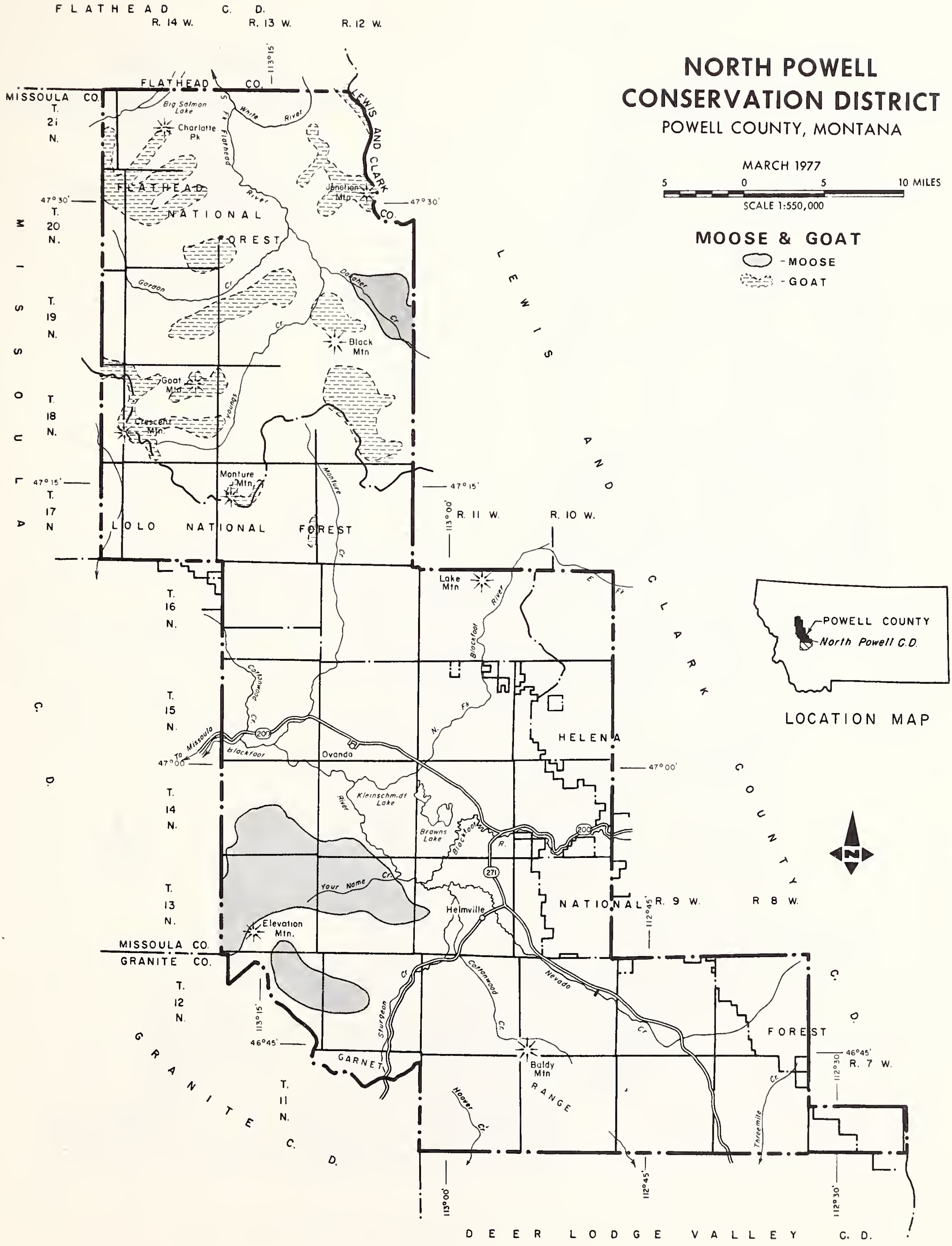

NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

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MOOSE & GOAT

- MOOSE
- GOAT

LOCATION MAP

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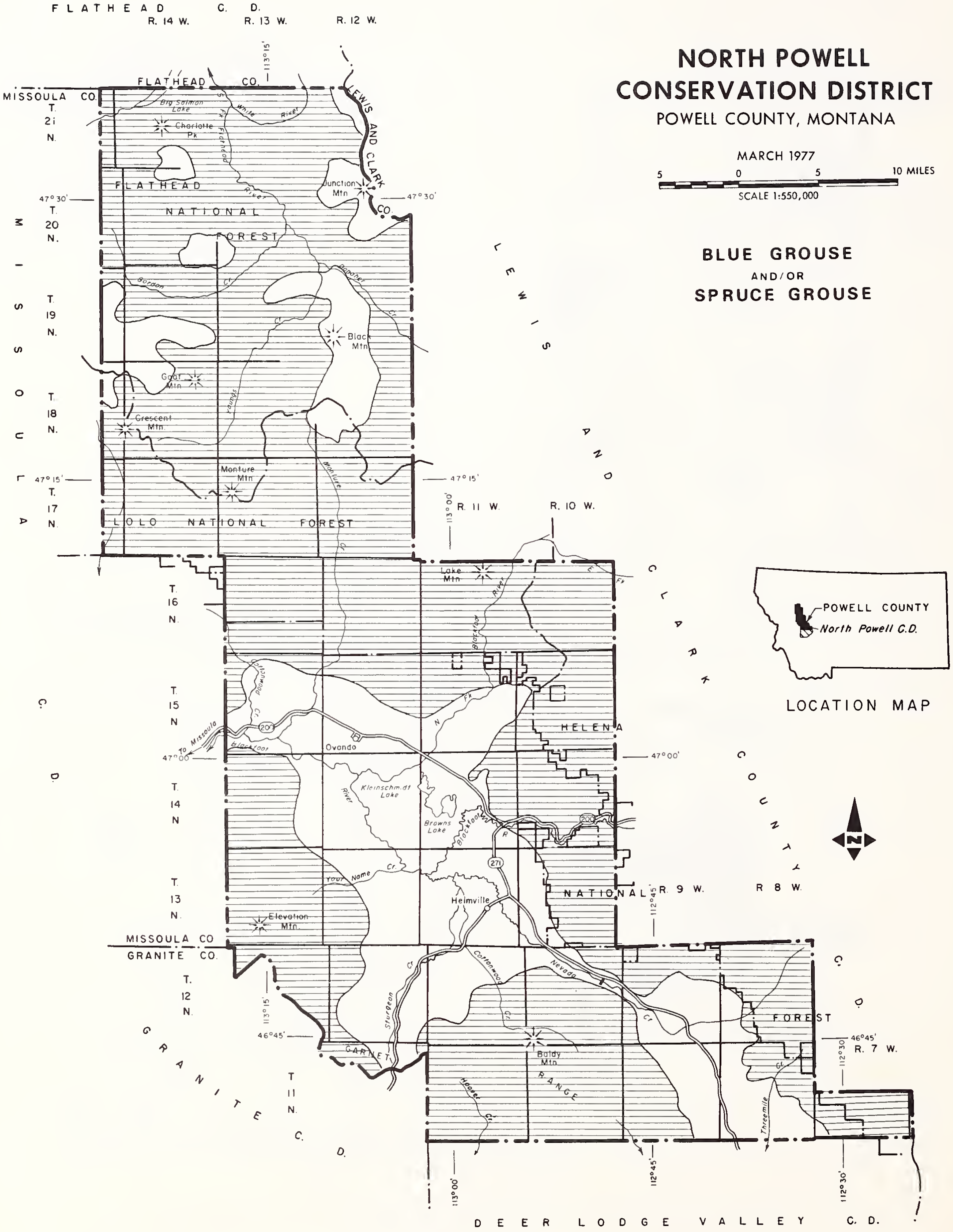
NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

BLUE GROUSE AND/OR SPRUCE GROUSE



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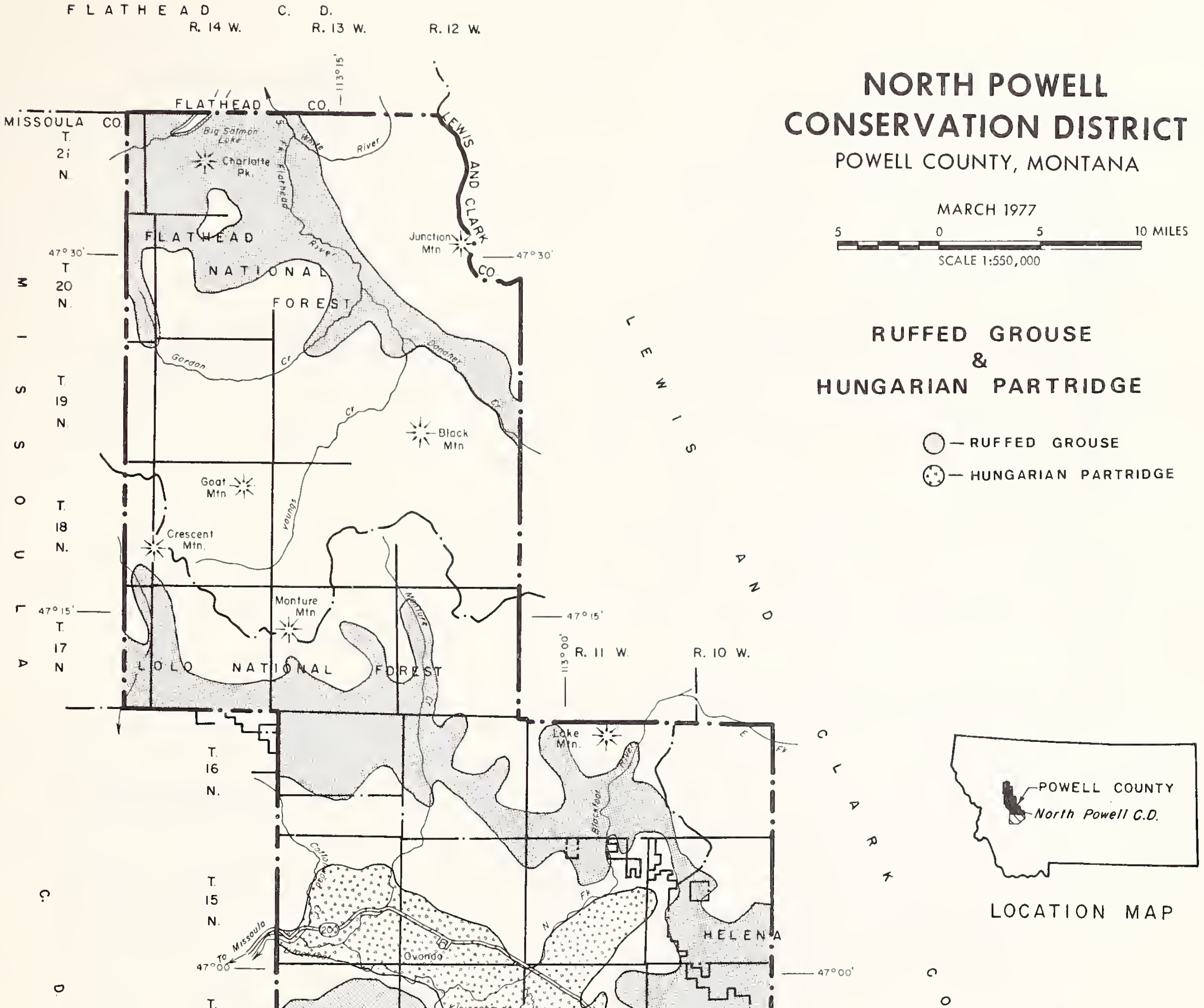

NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

MARCH 1977

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RUFFED GROUSE & HUNGARIAN PARTRIDGE

○ — RUFFED GROUSE

⊙ — HUNGARIAN PARTRIDGE

LOCATION MAP

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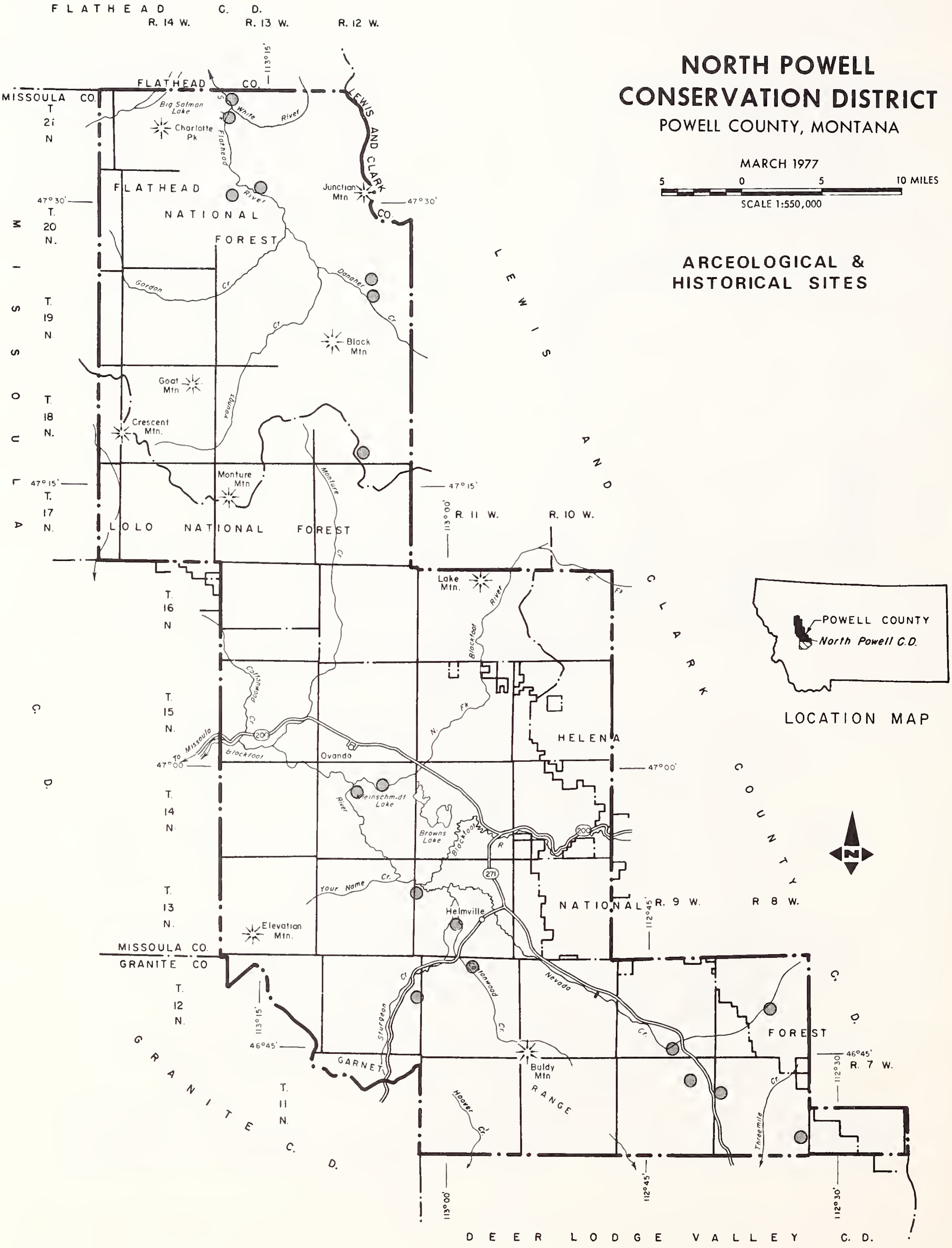

NORTH POWELL CONSERVATION DISTRICT

POWELL COUNTY, MONTANA

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ARCEOLOGICAL & HISTORICAL SITES

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HISTORIC

Detailed recorded historical events in the North Powell Conservation District area are scanty. Undoubtedly, many interesting happenings occurred, but records and memories of them have been lost or dimmed. with the passage of time.

Ancient peoples must have traveled through, lived and hunted in the area. Archeological investigations in the Strickland Creek area of the upper Nevada Creek drainage reportedly indicate human occupation reaching back nearly 7000 years. The western Montana indians encountered by the Lewis and Clark expedition referred to the Blackfoot River as the "River of the Road to the Buffalo Country".

In early July of 1806, Captain Meriwether Lewis with Sergeant Gass and nine men traveled through the district from west to east along the Blackfoot River. They named the north central valley area "Prairie of Knobs" because of the numerous scattered mounds or knobs in that part of the district.

In 1865 placer gold was discovered along Ophir, Carpenter and Snowshoe Creeks. This area is in the extreme southeastern part of the district and much of the "diggings" extend into the adjoining Deer Lodge Valley Conservation District. The placers were short lived but exceptionally rich with about $3,500,000 in gold taken out by 1875. A gold nugget worth $3280 was reportedly found on the McKay claim in Deadwood Gulch during the height of placer mining operations. This nugget is supposedly the largest one ever found in Montana. These "diggings" gave rise to Blackfoot City, the only real gold camp in the district. The only remaining evidence of Blackfoot City is a few basement holes, the cemetary on the hill, and the placer tailings in the surrounding gulches.

Other gold producing placer mining areas include Washington, Jefferson and Buffalo gulches and Yourname Creek. Placer mining in the district was virtually ended by 1890 after most deposits had been worked out. Lode mining has never been carried out on a large scale in the district. Sporadic placer and lode mining has been carried out ever since the gold rush days but no major discoveries have been made.

The mining operations gave rise to the settlement of the district and the development of the livestock industry. The livestock industry has remained as the major activity to the present.

George Montour, a half breed scout and interpretor and friend of the early settlers, was killed October 10,1877. A commemorative monument was erected by pioneer friends and has been maintained at his gravesite by local people. It is located at the north end of the bridge crossing the North Fork of the Blackfoot on the Ovando-Helmville road.

Settlement of the Helmville area began in 1867 mainly by miners from the exhausted placer diggings in Washington Gulch. The community was named Helmville after Henry Helm who was appointed by the early settlers to write to the Postal authorities in Washington D.C. asking for a post office and an official community name. Helmville reached a peak as a rural community center during the late 1940's and early 1950's.

The Ovando area was originally settled in the late 1860's and early 1870's by miners who decided to settle down. The town that developed was called Sadiesville. The name was changed to Ovando by the Postal authorities when Ovando Hoyt wrote to Washington D.C. asking for mail service and a post office.

Farming and ranching soon became the mainstay of the community. Logging also became an important factor. Timber was cut and stacked along the Blackfoot to await spring high water to carry the logs to the mill at Bonner.

Ovando "boomed" in the early 1900's with the Milwaukee Railroad planning construction of a railroad from Missoula to Great Falls through Ovando; the establishment of the headquarters of the Flathead National Forest in Ovando and the ranching and logging industries.

The drought of 1917, the moving of the Forest Service to Kalispell, the railroad's failure to complete construction and a devastating fire were all part of a series of events that stopped the boom and reduced the size of the community.

With the advent of new highways, better roads and vehicles, Helmville and Ovando have declined as communities since the 1950's. However, they still play a vital role within the district in distribution of mail, church services, schooling for the lower grades, community and social events and local suppliers of goods and services.

SECTION IV

OBJECTIVES, GOALS & PRIORITIES

SECTION IV

OBJECTIVES, GOALS AND PRIORITIES

The District will work toward:

1. Encouraging and assisting local people to formulate a plan for the orderly development of natural resources in the district using available basic soils information as a tool in the decision-making process.

Goal: Carry out a continuous education and information program to reflect changing needs.

2. Including as part of the district information program, the total benefits of conservation planning to all landowners.

Goal: Program to achieve 70% of the land area under conservation plan by 1990.

3. Encourage the treating of the total resource needs of the land instead of individual problems or needs.

Goal: Program to have 60% of the land area adequately treated by 1990.

4. Improving the range resources as outlined within the objectives, goals and time frame of the Montana Rangeland Resource Program.

Goal: Program to have 65% of District's rangeland in good to excellent condition by 1990.

5. Developing an information and education program to inform landowners of the value of their timber resources.

Goal: Establish information and education programs on timber management, sales contracts, erosion and weed control through reseeding, and value as managed grazing lands.

6. Monitoring water development projects to assure maximum beneficial use of water within each total watershed area, reduce sedimentation and disruption of natural stream systems.

Goal: Review water development projects to assure a proper balance of available water and developments within each drainage basin. The rules adopted by the district to implement the Natural Streambed and Land Preservation Act of 1975 will be the primary method of monitoring.

7. Encourage the development of the recreation potentials of the district with priorities placed on meeting the needs of local people.

Goal: Establish information programs to acquaint local people with the recreation potentials available within the district.

8. Encourage better rancher, sportsman and game management agency's relationships.

Goal: Limit hunter access in some key hunting areas, and establish additional walk-in areas.

Goal: Properly balance livestock and game use on key winter game ranges.

9. Enhancement of environmental qualities of the district.

Goal: Stress proper multiple land use and treatment through information programs, conservation planning and implementation of the above objectives.

PRIORITIES

The District will concentrate their efforts of getting treatment on the land to enhance environmental qualities, conserve water, prevent erosion and prevent or reduce the pollution of water and land.

SECTION V

PROBLEMS & OPPORTUNITIES

SECTION V

PROBLEMS AND OPPORTUNITIES

A. Planning and Development

B. Range Resources

C. Forest Resources

D. Water Resources

E. Cropland, Hay and Pasture Resources

F. Fish and Wildlife Resources

G. Recreation and Historic Resource

H. Other Lands

PLANNING AND DEVELOPMENT

The Conservation District can contribute significantly to the effectiveness of a resource planning program. The data on the natural resources of the district can help in determining the effects of both urban and agricultural uses on these resources. In resource planning and development, the apparent problems often are not the real problems but rather symptoms of several related problems. Each must be identified and dealt with in a manner that will treat the symptom and effect a cure. In this section the problems relate to each major resource, and the opportunities which follow list ways in which the District will attempt to solve these problems.

Problems

1. No soil survey has been made.

2. In the past there has been no coordinated planning to guide development of the natural resources in the district.

3. Approximately 45% of the privately owned land is presently not under a conservation plan. In addition, another 29% is under plans old enough to be outdated and of little or no use to the present situation. Only 26% is under plans current enough to be useful under todays conditions.

Opportunities

1. Work toward completing a standardized cooperative soil survey.

2. Work closely with the county planning board to insure coordination of programs and projects.

3. Provide to the planning board inventory data on natural resources for use in making sound planning decisions.

4. Provide one supervisor to serve as a member of the county planning board.

5. Coordinate and make available to the planning board relevant information from other agencies.

6. Develop committee of associate supervisors, youth groups, governing bodies, civic groups and other interested persons to advance the efforts of the district in all resource activities.

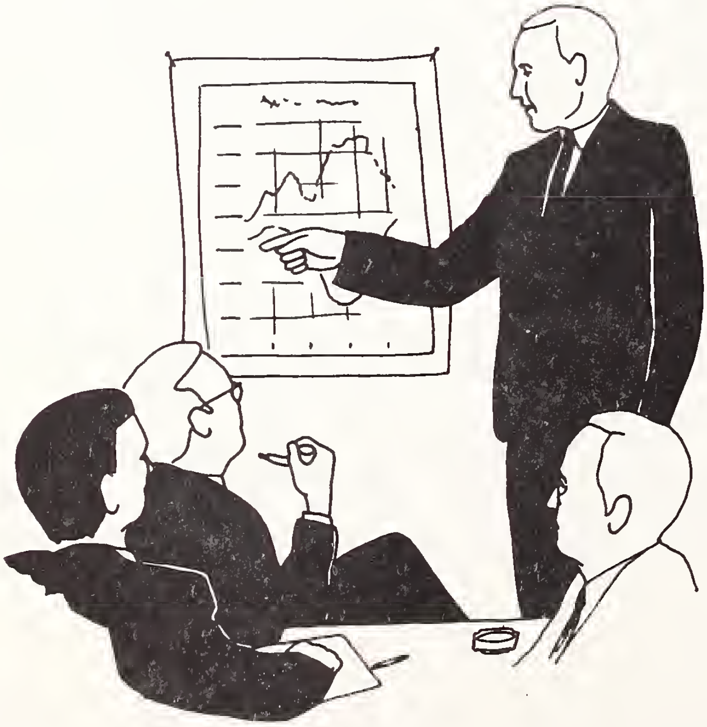
7. District will provide employees to be used in various phases of conservation planning.

8. District supervisors will encourage the development of conservation plans by neighbor farmers and ranchers.

9. Make use of other available programs, to encourage Conservation Planning.

10. Set planning priorities to serve the treatment needs of the land.

11. Achieve and maintain a minimum of 50 to 60% of the privately owned lands under current useful conservation plans.



RANGE RESOURCES

The improvement of our environment with a potential for increased income are available to local ranchers and the general public through better rangeland management. Approximately 90% of the agricultural income is derived from the sale of livestock and livestock products. Range improvement will directly reduce soil losses from wind and water erosion on rangeland. Water and air pollution will be minimized. Stream flow stabilization and a clean sediment-free water supply will result from improved range management.

Problems

1. 60% of the private and state rangelands are in poor and fair range condition. In addition half of the remaining rangelands need additional grazing management planning, fences or stockwater developments to be adequately treated.

2. Lack understanding of the rangeland resource by consumers, ranchers and other users.

3. Lack of adequate water supplies to provide for efficient forage utilization during all seasons.

4. Economic loss due to 60% of the rangeland in fair to poor condition.

5. Losses of livestock due to predators.

6. Reduced forage production from rodents and insect infestations.

7. Competitive use of rangeland by domestic livestock, wildlife and recreationists.

8. Loss of forage production due to increase of noxious weeds in some areas.

9. Fragile lands are contributing sediment because of lack of intensive management.

10. Difficulty in management of grazing lands with diversity of elevation, and precipitation.

11. Loss of forage production due to sagebrush infestations in some areas.

Opportunities

1. In order to attain the district goals in the rangeland program of improving the rangeland resource, there will be established a coordinated effort between the Rangeland Resource Committee and the District to attain the goals established by the committee.

2. Encourage that the rangeland resource be considered in its proper perspective and coordinated with other land use planning decisions in the district.

3. Broaden the information and education program to develop a better understanding of the rangeland resource.

4. Serve in the area of predator and rodent control, by functioning as a liason between local ranchers and predator control agencies.

5. There is an economic potential for various types of recreational development especially in the areas of fee hunting and vacation farms and ranches.

6. Encourage the use of well designed grazing systems to bring about improved range condition and greater economic returns.

7. Encourage additional research which contributes to increased forage production and protection of the rangeland resource.

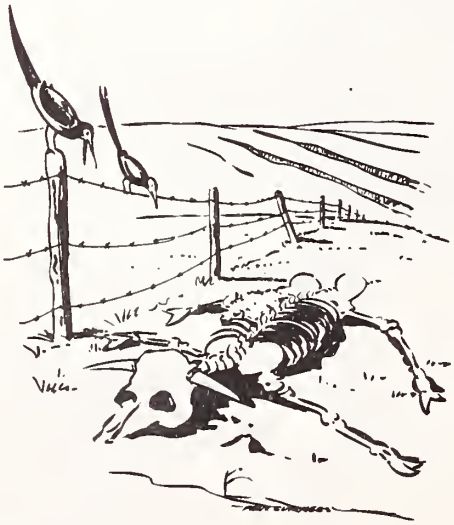
8. Encourage the use of tame grasses to increase forage production and provide protection to native grasses during critical growing periods.

9. Placing planning priorities on critical erosive lands to reduce sediment production.

10. Encourage the use of available programs to aid ranchers in conservation practices to protect the rangeland resource.

11. Encourage research in development of biological weed control.

12. Encourage sagebrush control practices that involve interagency planning and that consider the role of sagebrush in wildlife, watershed, etc. planning.



His boss said - " range conservation is for the birds ! "

FOREST RESOURCES

A major portion of the privately owned forest resource has been harvested at sometime in the past. Inadequate contracts and poor harvest methods have caused many problems. Management in the past has been directed almost exclusively to harvest operations rather than to sustained yield, multiple use management. The district's forest resources have high potentials for wood products, forage production, clean water production, wildlife and recreation.

Problems

1. Loss of revenue to landowners as a result of poor sale contracts.

2. Erosion and sedimentation caused by poor harvest operations.

3. Increased rapid snowmelt and runoff as a result of inadequate harvest management planning.

4. Weed infestations as a result of harvest operations and lack of seeding of roads, skid trails and landings.

5. Fire hazard and slash disposal problems as a result of improper logging practices.

6. Economic loss to landowner from loss of forage production during timber regrowth period caused by lack of management planning prior to harvest.

7. Lack of soils information to identify critical sites, key higher production sites, forest soils capabilities and limitations.

8. Loss of wildlife habitat due to improper logging techniques.

Opportunities

1. Develop an information and education program aimed at developing reasonable contracts, the need for advance management planning, slash disposal, weed and erosion control through seeding of critical disturbed areas.

2. Acquaint landowners with services available from the State Division of Forestry, Soil Conservation Service, and private consultant firms in management and harvest planning.

3. Establish soil surveys with adequate woodland interpretations.

4. Establish an adequate timber resource inventory.

5. Develop an information and education program to inform the landowner of the value and potential of timber resources with proper management.

6. Encourage landowners to properly plan grazing activities on woodlands.

WATER RESOURCES

Water is rapidly becoming a priceless resource and there are increasing demands to improve its quality. Community growth, agricultural needs, recreational uses, and industrial development are dependent on adequate supplies of good quality water. Up to the present almost all water used has been for irrigated agricultural production. Adequate amounts of high quality water have been available in the past.

Problems

1. Periodic excessive runoff from snow melt damages cropland, roads, bridges, and dwellings built on flood plains.

2. Sediment loads carried by flood waters causes silting of water storage impoundments, sediment deposition in stream channels, and damage to fish habitat.

3. More efficient use of water is needed to increase hay production, and conserve water.

4. Variations in seasonal flow results in under use of the water resource and loss of an economic opportunity. There is a lack of adequate water storage impoundments for late season irrigation.

5. Better irrigation water management, field drainage, land shaping or leveling is needed on 80% of the irrigated lands in the district.

6. Water tables in some areas have been raised through excessive use of irrigation water.

7. Rangeland management problems due to lack of adequate stockwater developments.

8. Accelerated snowmelt and runoff from higher elevation watersheds caused by excessive or improperly planned timber harvest.

9. Deterioration of the Nevada Creek Water Users Association Project is resulting in seepage damages, lack of adequate water delivery and potential spillway failure.

10. Erosion in unstable oxbows, streambanks and headcuts are depositing loads of sediment into waterways.

11. Excessive irrigation return flows contribute nutrient loads which increase pollution in streams and lakes.

Opportunities

1. Encourage land management and timber harvest practices that will reduce runoff, sediment yields and stabilize erodible soils.

2. Encourage improvement and use of irrigation systems to adequately control water and promote better irrigation water management.

3. Integrate the resources of the total watershed area in investigating and planning water development projects.

4. Encourage inter-agency cooperation in investigating, developing and improving irrigation projects.

5. Encourage complete study of ground water resources.

6. Encourage drainage studies and promote installation of proper drainage systems.

7. Encourage adequate spring developments for stockwater supplies.

8. Promote completion of studies, agency cooperation, and investigate funding sources for rehabilitation of the Nevada Creek Water Users Association Project.

9. The District will encourage proper measures to control existing streambank erosion problem areas.

10. Use the provisions of the Natural Streambed and Land Preservation Act to monitor activities and sediment yields on streambank projects.

CROPLAND, HAY AND PASTURE RESOURCES

Stronger economic pressures are expected to encourage producers to intensify production, to modify established management patterns, to expand irrigated acreage and to bring some new land into production. District supervisors urge that producers consider all available alternatives before making radical changes in their operations.

Problems

1. Small grains production as cash crops is limited by shortness of the growing season.

2. Many acres of irrigated hay and pasture are low-producing old stands.

3. High water tables in many areas prohibit cropping and reseeding of low yield acres.

4. Improper irrigation water management and inadequate irrigation systems are limiting production on many acres.

5. Production is limited on many acres by too intensive grazing.

6. Much of the fertilizer application is not based on soil tests. This results in inefficient use. The problem is further compounded by shortages of fertilizers.

7. Restrictions have been placed on certain chemicals for weed and insect control.

Opportunities

1. Acquaint landowners with the potential of failure when using small grains as cash crops.

2. Encourage use of small grains as hay crops in crop rotations.

3. Encourage cropping and reseeding of old low-producing stands with improved higher producing, better adapted plant varieties.

4. Encourage production increases as a result of improved irrigation water management, improved irrigation systems and installation of adequate drainage systems.

5. Encourage the use of crop rotations on 8 to 10-year cycles to keep hay and pasture acres producing at higher levels.

6. Encourage producers intending to bring more land under irrigation to install and properly use adequate, efficient and properly planned systems.

7. Maximize the use of fertilizer by encouraging application rates based on soil tests.

8. Encourage producers to intensify management on their best hayland areas. This offers the best opportunities for highest production increases for the effort. This would allow use of wetter, harder to improve areas as pasture to relieve grazing pressure on rangeland.

9. Encourage producers to develop early season dryland pastures to reduce late grazing pressure on haylands and early grazing pressure on rangeland.

FISH AND WILDLIFE RESOURCES

Fish and wildlife resources are an important resource in the District. With the increased growth of outdoor oriented recreation, this resource will become an even more important consideration in the overall resource development program of the District.

Problems

1. A few careless and irresponsible people have caused poor relations between landowners and sportsmen.

2. There is a need for local sportsmen's groups to establish a liaison between landowners and sportsmen.

3. Public access and developed facilities for fishing and hunting are inadequate in some areas.

4. More pressures are being placed on private land each year for hunting and fishing.

5. Winter game range areas are limited compared to summer ranges.

6. Fisheries are reduced by dewatering of streams for irrigation during low flow periods in some areas.

7. Unplanned grazing of range in pothole areas limits waterfowl production.

8. Major winter game range areas on private land in some areas are reduced by livestock grazing and in some cases is in direct conflict with the producer's operations.

Opportunities

1. Inform landowners of potential for various types of recreational developments, especially in the areas of fee hunting, guide service and vacation farms and ranches.

2. Encourage, where practical, the development of wildlife habitat areas in conservation planning.

3. Consider items beneficial to wildlife development in the design of conservation practices such as fencing of structures, selection of species adapted to providing food and cover for wildlife, etc.

4. Establish a better liaison between various agencies during the early planning stages of road design in order that more consideration can be given to the proper design and installation of culverts and bridges to maintain fisheries resources.

5. Promote better relationships between sportsmen and landowners.

6. Encourage landowners and county commissioners to provide and regulate access.

7. Encourage landowners to use planned grazing systems in pothole areas to provide nesting habitat for waterfowl.

8. Insure that adequate stream flows are maintained in planning new water developments.

9. Use provisions of the Streambed and Land Preservation Act to monitor activities and sediment yields on streambank projects.

RECREATION AND HISTORIC RESOURCES

Appraising the potential for recreation is an essential step in planning to meet the recreational needs of the area. Recreation is an underdeveloped resource in the District. The development of this resource could provide an increase in the economic base of the district.

Problems

1. There is a need for additional recreational developments to meet the needs of all age groups.

2. There is a need to improve water-based recreation facilities.

3. There is a need to educate local people to the economic opportunities through the development of recreation.

4. Access for winter sports is limited in some areas and needs regulation.

Opportunities

1. Work with and encourage local people to consider the development of an over-all recreation plan for the entire District.

2. Encourage educational programs to inform farmers and ranchers of the opportunities in the areas of recreation development.

3. Encourage agency, sportsman and landowner relations to discuss and resolve access and regulation problems.

4. Encourage individuals, groups and state agencies to maintain Highway 200 as an historic route and to better inform the travelling public of Lewis and Clark travels through the District.

OTHER LANDS

Other lands in the district consist primarily of roads, farmsteads, rural schools, churches, cemeteries, etc. These areas if not properly treated can become sources for sediment production or areas for noxious weed infestations.

Problems

1. These lands without proper conservation measures, can be a major source of sediment pollution to rivers and streams.

2. These lands without proper treatment provide areas for noxious weed infestations.

Opportunities

1. Shaping of existing and new construction borrow areas along with stockpiling of topsoil will assist in getting these areas revegetated sooner, thereby reducing erosion and opportunity for noxious weed infestation.

2. Proper planting of trees along roadsides will result in reduced snow removal costs, add to the beauty of the countryside, and provide additional areas for wildlife habitat.

3. Consideration will be given to the protection of streambanks when road or other construction projects are developed which may adversely affect the bank, channel or course of the stream.

SECTION VI

IMPLEMENTATION

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IMPLEMENTATION

There are numerous techniques for implementing different elements of the districts program. However, the use of each technique will be specifically fitted to the policies, goals and objectives of the District.

A. General Implementation Tools

1. Conservation District Organization, Plan of Work and Projects.

The Conservation District law provides broad authorities for implementing a Conservation District program. The District will provide leadership and utilize all possible assistance in carrying out their program. Standing committees and special committees, such as the Range Resource Committee, will be used as needed to further the objectives of the program.

Regular monthly meetings will be used to review progress and stimulate activities toward implementation of the District program.

2. Conservation District Cooperator Agreements

Voluntary agreements are negotiated between the conservation district and the individual land occupier or group, association, or entity of government to supply certain services according to a plan such as a Farm or Ranch Conservation Plan, a Range Management Plan, or engineering plan for a specific conservation practice.

3. Annual Plan of Work

Based on program goals and objectives, the supervisors will request assistance from local, state and federal agencies as needed to develop an annual plan of work.

4. Tax Policies

Possibly the most important but least understood plan implementation device is state and local taxation.

The tax values placed on land are often conservative, resulting in a direct subsidy to the land speculator. The low cost of holding land vacant is normally more than offset by increasing market values. This situation is a direct cause of urban and rural sprawl.

In other cases open land is over assessed according to speculative value because of surrounding development. This situation may be partly remedied by the "Greenbelt" law which now provides that qualifying agricultural land is to be taxed according to current rather than potential use. However, timber lands do not qualify under the present "Greenbelt" law and this is forcing some landowners to harvest all saleable timber on their lands in order to lower their taxes. Adjustments should be made in legislation to encourage timber management for sustained production rather than to discourage it.

5. Zoning

Zoning is an exercise of the police power, i.e., the power of the state to regulate in the interests of the health, safety and general welfare of the public. Some of the purposes of zoning include environmental preservation, limitation of congestion, protection of property values and adequate provision of community services. The county commissioners may establish zones or districts for different uses of land and may regulate development patterns, building use and the area around buildings.

Section 16-4704, R.C.M. 1947, provides that zoning regulations shall be in accordance with the comprehensive plan. Comprehensive ordinances apply to an entire planning area and in the absence of such a plan may place the zoning ordinance in questionable legal status.

If a jurisdiction is experiencing emergency land use problems, a temporary interim zoning regulation may be enacted pending the completion of a comprehensive plan within a reasonable time. Such authority is provided to the county commissioners in Section 16-4711, R.C.M. 1947.

6. Land Use Regulations

Section 76-109, R.C.M. 1947, provides conservation district supervisors with the authority to formulate land use regulations within the district in the interests of conserving soil and water resources and preventing and controlling erosion. A referendum is then submitted to qualified electors for their approval or disapproval of the regulation.

7. Floodway Management

Conservation Districts can contribute data to become involved in floodway management. Pursuant to the Montana Floodway Management and Regulation Act of 1971, a floodway management program may be carried out as follows:

a. A request for flood delineation studies is made by the local subdivision of government to the Montana Department of Natural Resources and Conservation.

b. Completed studies are useful if available, and federal agencies (U. S. Geological Survey, SCS, Corps of Engineers, etc.) are contacted by the Department for technical assistance.

c. After delineation, the Department conducts a public hearing on the establishment of the designed floodway. As a result, floodway lines will be recorded and data furnished to local officials.

d. The local governing body then has a maximum of one year to establish and enforce floodway land use regulations at least as stringent as those established by the Department.

e. After local regulations are in effect, or one year after transmission of the floodway data, permits must be obtained before establishing or altering any artificial obstruction within the designed floodway.

8. Subdivision Regulations

The Montana Subdivision and Platting Act of 1973 requires each local governing body to adopt and enforce subdivision regulations by July 1, 1974. These regulations must meet or exceed state minimum requirements and must contain provisions for an environmental assessment to be submitted by the subdivider. Local review procedures as well as district representation on county planning boards will ensure that the Conservation District is afforded an opportunity to evaluate each proposed subdivision within the district.

9. SB-310, Montana Natural Streambed and Land Preservation Act of 1975 provided that Conservation Districts adopt rules, standards and administrative procedures to guide and monitor private and group activities on perennial flowing streams.

B. Assistance

1. Technical

The major source of technical assistance available to the district is through the Soil Conservation Service. Other agencies available to provide some technical assistance include Montana Department of Fish and Game, Montana Division of Forestry, Bureau of Land Management, US Forest Service and the Headwaters R.C.&D. Forester.

2. Program planning, development, coordination and administration

Assistance is available in these phases from the technical agencies already listed and others including Montana Department of Natural Resources and Conservation, Montana Association of Conservation Districts, Headwaters R.C.&D. County Program Committee, local planning boards, Board of County Commissioners and State Land Department.

3. A source of help often overlooked in planning and implementation of programs is the private sector. Citizens groups, area banks or lending institutions, industries, water users groups and individuals may be crucial to plan implementation and should be involved in planning throughout the process.

4. Financial

Major types of assistance available for installation of conservation measures are:

Agricultural Stabilization and Conservation Service programs
PL 566 Watershed program
R.C.&D. program
HB 642 Montana Renewable Resources Act of 1975 loan and grant programs
Montana Department of Land program for range improvement practices
Direct loans from banks and other lending institutions
Farmers Home Administration

RESOLUTION OF ADOPTION:

On FEB 7, 1977 at HELMVILLE at a regular meeting of the Board of Supervisors, consisting of Chairman Dave Cochran, Vice Chairman Herman Jacobsen, and Supervisors Wendell Copenhaver, Ralph Mannix and Paul Murphy, did meet and review the prepared North Powell Conservation District program, and after such review did mutually agree and resolve that such district program be adopted.

Signed this 7 day of FEB, 1977.

Supervisors:

David T. Cochran
Chairman

Herman Jacobsen
Vice Chairman

Paul J. Murphy
Supervisor

Wendell Copenhaver
Supervisor

Supervisor

Attest:

Robert E. Durham
Secretary